

THE
ITEMS OF INTEREST.

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DENTAL ART, SCIENCE AND LITERATURE.

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T. B. WELCH, M.D.

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OUR ANNOUNCEMENT.



FIFTEEN years ago **Items of Interest** was an eight-page newspaper. To-day it is eight times as large. "Eternal progression" has ever been the watch-word. Its present size is the result. Nothing has been left undone to enhance its value to the dental profession. Neither labor nor expense has been spared to do full justice to the remarkable progression of dental science. It has to-day hosts of friends—and hundreds coming. Its phenomenally rapid growth, progressive methods, direct, terse and forcible contributions; its beauty, clearness and precision; its unwavering loyalty to the professional masses and its able business and editorial staff has justly placed it among the leading dental publications of the day. It leads in originality, style and typographical excellence. Leads in circulation, superiority of contributions, price, quality, quantity, everything—and all for a dollar a year!

The publishers have been asked to raise the price of subscription—that it was inadequate for the volume of information contained. These suggestions are not without ground. The expense in publishing a magazine of sixty-four pages monthly is necessarily large, but the constantly increasing subscription list has deterred them from taking this step. "The greatest good to the greatest number" is a good motto, and **Items of Interest** has been published on that principle since its inception. To raise the price, however, would not lower the cost of publication. It is, therefore, suggested that each friend, in forwarding subscriptions

for 1894, enclose two instead of one. This not only disseminates the "light of truth" to the world on a broader scale, but doubles the subscription list, enables the publishers to provide a still greater variety of contributions, and, possibly, to still further enlarge their magazine.

This is not a difficult undertaking. Substantiate your good wishes as suggested. Spread the light of progression still further ; keep abreast of the times ; know your possibilities ; accept the suggestions of eminent practitioners ; increase your patronage ; be affable, truthful ; assist your neighbor ; raise yourself in the estimation of your fellow workers ; help double the subscription list of **Items of Interest** and reap a noble reward.

THE PUBLISHERS.



PLATE A.

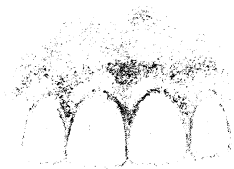


FIG. II. GUM OF A BLONDE.



FIG. IV. LEAD POISONING.

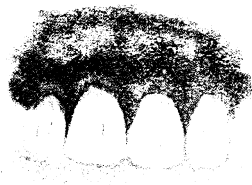


FIG. III. GUM OF A BRUNETTE

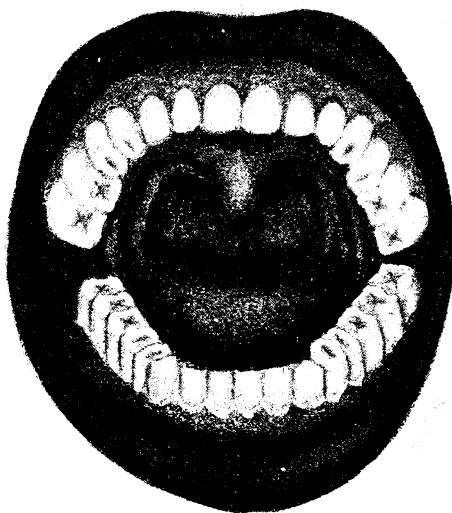


FIG. I. NORMAL MOUTH.

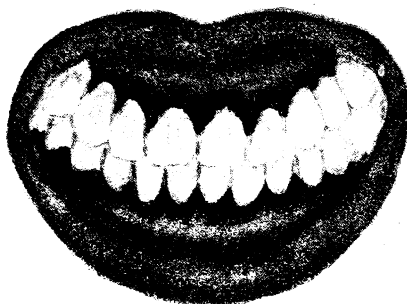


FIG. V. ANAEMIC GUM.

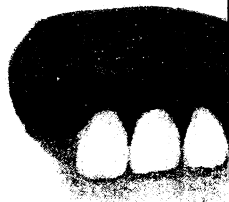


FIG. VI. HYPERAEMIC GUM

FIG. VII. GINGIVITIS.
(HYPERAEMIA LIMITED)

PLATE B.

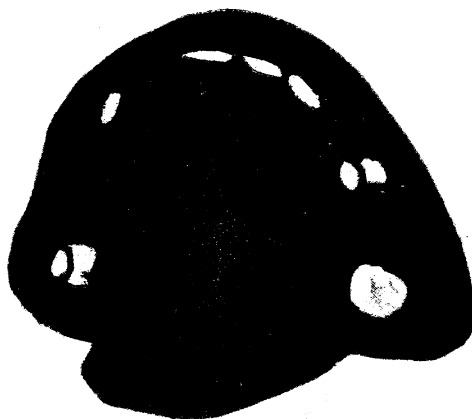


FIG.VIII HYPERTROPHY OF GUM TISSUE.
(NON CONGENITAL)

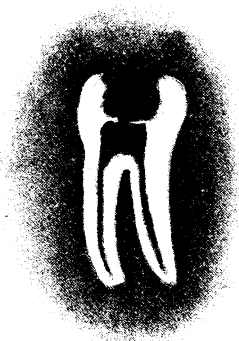


FIG.IX.

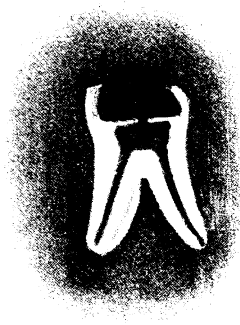


FIG.X.

FIG'S. IX-X. HYPERTROPHY OF TOOTH PULP. (POLYPI)

ITEMS OF INTEREST.

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NO. 1.

ORIGINAL COMMUNICATIONS.

ORAL DISEASES;

NON-SURGICAL AND SURGICAL.*

By W. F. Rehfuess, D.D.S., and L. Brinkmann, M.D.

The object which prompted the preparation of these dissertations on the scope and character of oral diseases, and of our method of presenting them, is that we realize that the essays and text-books treating of oral diseases have been prepared and considered entirely from a medical standpoint, and that various lesions of the mouth, important from a dental point of view, have been neglected; and, furthermore, that the descriptive means of diagnosis of oral diseases, as given in the text-books, are not sufficiently treated in practical details to afford the dentist a reliable means of diagnosis. Hence we have prepared the present articles with the view of making them more practical in description and information, and better adapted to the purposes of a general practitioner of dentistry.

This is obvious, because some diseases of the mouth, particularly those affecting the oral mucous membrane, have no very marked distinctions existing between their varieties. Some authors hold that they are but a stage of the inflammatory condition, differing only in their severity—as, for instance, that stomatitis ulcerosa is but an advanced stage of catarrhal stomatitis.

Prosaic descriptions, when such similarities exist, even if exact and explicit, do not always afford the dentist an accurate means of distinguishing such lesions. Therefore, the authors have illustrated the articles with a series of plates representing typical cases of the individual diseases in their natural colorings, thus better familiarizing the reader with their appearance. These plates were painted by the authors from actual cases, and, therefore, can be relied on as being correct.

*Copyrighted, 1892, by The Wilmington Dental Mfg. Co.

It is not the intention to confine the articles to the limitations of the oral diseases treated by a general practitioner of dentistry, but to embrace all lesions within the mouth and outside of the mouth on the face. Because, if a dentist does not treat a case or operate on it, he should at least be qualified to diagnose all such lesions, and be capable of advising his patient of the course of the disease and what can be done by the specialist in its treatment. The dentist thus becomes a safeguard to his patient. Having the mouth under observation and treatment, by careful research he should, in a measure, be capable of detecting such lesions in their incipency, and by proper advice or treatment may perhaps check the fearful ravages of a morbid disease. It is not the intention to give a detailed historical and etiological sketch of the various diseases as the length of the articles will not permit; and, furthermore, such knowledge to a general practitioner is verbiage, though to a specialist it is a necessity.

It is not within the scope of the present articles, nor is it to be expected, that their limitations will permit an extended and minute treatise on the surgical diseases, such as is given in the leading text-books on the subjects. However, the simple classification of these diseases, as adopted by the authors, enables them to present the subject more practically, thoroughly, and yet in a concise manner.

We have not relied solely on our own experiences and methods of treatment, nor on those of any single class of writers, but present the most trustworthy and acceptable views entertained by the leading authorities on the subject in dentistry and medicine.

Introductory to the subject, the various oral diseases can be grouped under two general heads—non-surgical and surgical. The former is further subdivided and classified in the following table.

These subdivisions have been made with the intention of simplifying the classifications, which heretofore have been confusing, one class of writers adopting one nomenclature, others using another. Aphtha, a term first used by Hippocrates, has been indiscriminately applied to many oral diseases. Bretonneau and others made the distinction more clear. Allechin, Forscheimer, in more modern times, have simplified the classifications, but these have been limited to non-surgical diseases of children. A careful study of the subject has prompted the classification here presented, embracing diseases of both children and adults. The various distinctions in each will be noted and treated individually.

NON-SURGICAL ORAL DISEASES.

STOMATITIS CATARRHALIS.

- a. Simple Ulcerations.
- b. Aphthosa (aphtha).
- c. Herpes Zoster.

1. Ulcerative Stomatitis.
2. Alveolar Ulcerative Stomatitis.

STOMATITIS SYMPTOMATICA.

- a.* Measles.
- b.* Scarletina.
- c.* Variola.
- d.* Syphilis.
- e.* Tuberculosis.

VENERAL ORAL DISEASES.

- a.* Gonorrhoeal Stomatitis.
- b.* Syphilis.
- c.* Chancre.

ORAL MUCOUS MEM-
BRANE.

- a.* Stomatitis Mycosa.
b. Stomatitis Epidemica.

STOMATITIS MYCOSA, AND
OTHER PARASITIC ORAL AF-
FECTIONS.

- c.* Disturbances from local injuries, superinduced by parasitic infections.
- d.* Infections from general uncleanness and of instruments, food fermentations, etc., in the mouths of persons in a debilitated condition.

STOMATITIS GANGRENOZA.

- Mercurials.
Lead.
Jaborandi.
Pilocarpin.

MEDICATION.—The effects produced on the gums by medi-
cations with

PERIDENTAL MEMBRANE.

- a. Ulitis.
b. Gingivitis.

(Disease commencing at the gum-margin. on that of G. V. Black, M.D., D.D.S.)	Classification based
	<i>b.</i> Gingivitis.
	<i>c.</i> Calcic Inflammation.
	<i>d.</i> Phagedenic Pericementitis (Pyorrhoea Alveolaris).

NON-SURGICAL DISEASES OF THE ORAL MUCOUS MEMBRANE.

The importance of this class of diseases has been underrated by the general practitioner of dentistry, and consequently they have not had that attention which could be expected from those whose specialty can claim them to come within its domains. The cause which incites these diseases may be ACCIDENTAL, HYGIENIC, CONSTITUTIONAL or HEREDITARY. The majority of them can be attributed to accidental causes. These are due either to mechanical or chemical irritations.

Mechanical irritations, in children, are produced by the introduction into the mouth of foreign bodies, such as buttons, pins, etc. In adults, by artificial dentures, sharp edges of broken teeth, and others of a like character.

The lack of hygienic care, uncleanness of the mouth, give rise to masses of different bacteria, cocci, and bacilli, causing inflammatory disturbances of a distinctive character.

Constitutional causes are a predisposing factor in various forms of these lesions, and to such causes can be attributed the localized manifestation of the disease on the membrane.

This is true of the various specific fevers and diseases.

Lowered vitality may be an important factor, as also are functional disturbances, as the arrest of the normal action of the functions of the mucous membrane.

Of this latter cause, Dr. J. D. Patterson says :

In glancing at the anatomy of the membrane, it may be described as follows : A layer of epithelium, a connective tissue frame-work and glands underneath, separating the epithelial layer, and provided with blood-vessels, lymphatics and nerves. Whatever interferes with and changes the normal condition of the membrane may overcome the safeguards, and disease is the result.

To mouth-breathing is attributed the drying of the surface of the membrane, causing a stoppage of the mucous ducts.

The hereditary influences, particularly in scrofulous and other specific diseases, have a tendency to cause affections of the oral mucous membrane.

Variations of the blood supply to the gums cause disturbances of local nutrition, manifested by a hyperæmic or anæmic condition of the oral mucous membrane.

Hyperæmia is a localized condition of superabundance of blood in the blood-vessels. It is characterized by a redness and swelling in the part. The continuance of this condition, or its increased irritation, result in an inflammation by reason of the obstruction to the flow of blood from the part producing a passive hyperæmia.

The degree of this inflammation varies from a simple engorgement of the blood-vessels giving rise to a slight inflammation of the gums (gingivitis), plate B, Fig. vii, to the complete filling of the tissues with blood, and its consequent stagnation, producing a slight degree of hypertrophy of the gums, or perhaps a massive growth (see plate B, Fig. viii, non-congenital).

The former condition of slight or limited hyperæmia of the gums occurs in robust persons consequent on local irritations, such as depositions of tartar, mechanical irritants, or others of a like character. The gums at the necks of the teeth become swollen and thickened. The authors have, in a number of instances, noted this condition in the mouths of pregnant women. It is in the latter cases undoubtedly due to a disturbance of nutrition which manifests itself in the lowered vitality of the teeth.

Persons addicted to the excessive use of tobacco or intoxicating liquors, usually have a limited hyperæmic condition of the oral mucous membrane.

Excessive hypertrophy of the gums, as shown in plate B, Fig. viii, is a rare condition. The plate is taken from a case presented at Philadelphia Hospital clinic. It is due to irritations from extensive caries, uncleanness, excessive use of tobacco and liquors, abundant deposition of tartar, etc. This condition must not be confounded with congenital hypertrophy of the gums when the hypertrophied tissue presents pink warty-like masses.

Limited hypertrophy of the gums on one side of the jaw, occurring from like causes, is frequently observed.

Hypertrophy of the pulp (polypus), plate B, Figs. ix and x, can be cited as a growth or tumor of the pulp, due to a slight but constant irritation of an exposed tooth pulp, resulting in hypernutrition and consequent pathological growth.

Local anæmia is a deficiency in the blood supply of a part. It may be due to general anæmia caused by a decrease in the number of red corpuscles without a loss of blood; to a lack of coloring matter; traumatic anæmia from hemorrhage, and again to spasms of the arteries of a part causing a contraction of these vessels and the consequent diminution of blood supplied to the part.

Inflammatory processes of the oral mucous membrane when in an anæmic condition, from imperfect nutrition, develop slowly, and have a tendency to become chronic. In such conditions the face, lips and gums are characterized by paleness. The gums have a tense appearance, more adherent to the bone, and at the neck of the tooth.

When the anæmia is localized, there is sometimes a slight recession of the gums (no deposition of tartar). Several cases of local anæmia of the oral mucous membrane, due to the lack of nutrition, observed in practice, result in a slight recession of the gums. Again, in an anæmic patient, devitalization of pulp from lowered vitality is caused by diminution of nutrition.

In the treatment of hyperæmia of gums, from disturbances of nutrition, if but a localized hyperæmia of a plethoric condition of the circulatory system, constitutional treatment to remedy the general condition is advised. Locally, treatment of gums will cause a depletion and contraction of the dilated blood-vessels. Judicious use of the lance and of astringent mouth washes are effectual.

In localized anæmia the circulation should be aroused. Locally, massage of the gums with oil of juniperberry will remedy the condition better than any other mode of treatment. Stimulating washes and moderate applications of tincture capsicum, and tincture cantharides are beneficial. Constitutionally, tonics are essential.

It is important to study the normal condition of the oral mucous membrane. Note its natural pink coloring, the festoons around the necks of the teeth. In plate A, Fig. i, is shown a normal mouth. The natural pink color of the tissues in this plate, when compared with others, particularly the simple inflammatory condition, stomatitis catarrhalis (plate C shown in next issue), demonstrates that the slightest deviation from a natural pink towards one of red, marks an inflammatory condition. Sometimes in catarrhalis, three characteristic symptoms of inflammation, heat, swelling, and pain, are not perceptible, hence the diagnostic value afforded by the other symptom, redness, is apparent.

The normal color of the gum is not alike in all persons. In children it is lighter than in adults. In old age the gum also has a lighter appearance. Again, careful observation has shown that the gum of the average blonde is much lighter in color than that of a brunette. This is a general rule, though exceptions may be noted where the gum of a blonde is as dark as that of the average brunette, and *vice versa*.

These distinctions in coloring may appear slight and unimportant to the casual observer, but in a careful study of the normal and pathological conditions of the gum, it will be noticed that the first stage of all inflammatory conditions in the mouth is marked by the deviation from the natural color, as the red in hyperæmia, the pale pink or whitish in anæmia, various reds in catarrhal stomatitis, and blue in lead poisoning.

This is noted in plate A where a type of each is shown, Fig. ii representing the gum color of the average blonde; Fig. iii, of a brunette; Fig. iv, lead poisoning; Fig. v, anæmia; Figs. vi and vii, hyperæmia.

The study of these colorings is the fundamental law of careful and accurate diagnosis of diseases of the oral mucous membrane. Each color is a factor, a distinctive means of diagnosis of the more simple lesions. It is also advisable to note the accompanying color of the tongue and lips. If the inflammation of the mucous membrane is due to a local cause, the color of the lips is usually not affected. If constitutionally, as in anæmic persons, it is noticed locally, the lips become pale. The characteristic color of the tongue should not be overlooked.

To be continued.

OLD METHODS RECALLED.

By L. P. Haskell, D.D.S.

The following article from the *Journal of the British Dental Association* is one more illustration of "something new," but very old:

"CONTINUOUS GUM.—For sometime I have varied very considerable from the methods described by the books, and which I find admit of the gum enamel plates being much more generally adapted for ordinary practice. I have not troubled myself much about the methods that have been advocated within the last few years, and known as continuous gum facings on vulcanite plates. In the first place, it appears to me to degrade continuous gum to combine it with vulcanite; secondly, the necessity of destroying the vulcanite plate in case of a repair to the gum enamel or teeth. In the method I use, soft platina is discarded entirely, and this is where I think the great mistake has been made in the past; soft platina necessitated covering the whole of the palate with gum enamel to obtain sufficient stiffness, this complicated the construction considerably and added to the weight. By making the plate of hard platina, No. 4 gage or thinner for a deep palate, the plate will be sufficiently strong without covering the palatal portion with gum enamel. A triangular hard platina wire is soldered with fine gold around the rim and along the palatine side of the alveolar ridge to form the boundaries for the gum enamel. Hard platina plates made in this way can also be used for partial pieces, and hard platina bands used, soldered on with fine gold; if they are slightly hammered on a beak iron after the baking is finished, they will be sufficiently hard and springy for bands. The gum body and enamel now

supplied by Messrs. Ash & Sons are also an improvement, since they are denser and fuse at a lower heat than the American enamels, and quite equal to them in color.

Forty-one years ago this month I began to construct continuous gum dentures and in the same manner here described, except that I used "soft platina." After using this method several years I discarded it, not because of lack of strength, for I recently saw in wear in Boston one of the first sets I made on this plan forty years ago in good condition and never repaired, but because the covering of the palate with porcelain is one of the most desirable features of this work, not only in appearance, but the tongue realizes at once the conditions of the natural palate and teeth, instead of a thick, abrupt gum as in the former case.

As to the additional weight, it is not worth a moment's consideration, and additional thickness is not realized, and the feeling of the porcelain, with its rugæ, more nearly resemble the membrane than a polished metal or rubber plate.

A lower fusing body of enamel is of no advantage, but otherwise. I would prefer a higher one than now used.

I would not advise any one to try the experiment of bands or clasps soldered to plain gum plates, for it would be next to impossible to retain them in place in baking.

AMALGAM INCIDENTS,* No. 4.

THE CAUSEWAY AND THE CRAB.†

EDITOR ITEMS:—In 1884 I wrote you as to my "gettings on," which you published in the ITEMS under the heading "A Happy Man." Eight years have passed since then, and my happiness has been greatly increased. The reason for this is mainly in my acquaintance with and use of a queer looking thing in metal called a "crab." This crab has a very strong spine and tenacious claws, which clasp firmly and hold fast to whatever I entrust to its keeping. So you see I have an invaluable assistant in this crab, and it has worked such wonders in my practice that instead of being

*Letters patent were issued to Dr. Cloves for this discovery, February 17th, 1891.

†In the previous *Amalgam Incidents* the author has shown that with amalgam broken down teeth may be so tied, or bridged, as to be of mutual permanent support. Some writers have criticised this process. Father Cloves, therefore, may be justified in presenting in this number some proofs of his success.—ED. ITEMS.

"crabbed" (as might be supposed), I am amiably disposed toward all the world. Impressed by such kindly influences I feel a desire to open up and exhibit my evidences of dental progress.

A lady who had been for many years unable to masticate on the left side, became the possessor of one of my dental causeways, and six months later wrote me, "I find in it the greatest possible comfort and bless you every day of my life." Another writes, "My teeth are the source of continual pleasure, and I feel very grateful for your splendid services in my behalf." Another, "My teeth are behaving perfectly, and, as far as they are concerned, I am completely happy. Not long ago, by request, I entertained a crowded roomful at an evening party by giving an exhibition of your great discovery in dentistry." Another, "It gives me great pleasure to pay for the excellent 'chop grinder' you built up for me. My *giant's causeway* is all that can be desired, and I am so liberal in my praises of it that I fear my friends will think I am your agent." Another, "Your causeway is working grandly. It is certainly a piece of beautiful workmanship, and if I were to walk Broadway three hours with my mouth open, and a card inserted with your name, you would be overwhelmed with work." Another, "I don't see how you can improve the work done in my mouth, though, as you say, we are in the age of improvements and always finding out something new. I suppose you may sometime improve on your past work, but I, for one, am perfectly satisfied with what I have already." Another, "You are a providential illustration of the comprehensive grasp of art on science, chiseling out of hard problems a monument of benediction." Another, "Your work is a marvel of strength, and I say God speed you and keep you to do all the good you can in this world and gain life everlasting beyond for your reward." Another, "Your work is a great comfort to me. I have shown it to many friends, who think it wonderful; so let the good work go on." Another, "I have anxiously, almost prayerfully, watched the work you have done for me, till now it is my favorite means of mastication, and, as far as I can determine, is as firm as a rock, and without feeling." Thus these grateful tributes come in, and many more like them—all about a homely little crab and the beneficial amalgam that it clasps so firmly in its loving embrace! What wonder that my days are joyous; that labor is sweet; that age is arrested in its course; that blessings in perpetual and refreshing showers are falling on my head.

J. W. Clowes.

AN INTERESTING RAMBLE IN SOUTH AMERICA.

By W. F. Phillips, D.D.S.

Having just returned to Carácas from a long and somewhat adventurous trip in the interior, and being anxious to get hold of something in the English language to read, a gentleman handed me a copy of *ITEMS OF INTEREST*, telling me he had received it with an invoice of goods from The Wilmington Dental Manufacturing Company. I assure you I read it with interest, and in return for the pleasure derived from it I will relate a few of the many interesting things I have seen while an exile.

A little more than a year ago I left Washington, D. C., to try what the climate of this country would do to restore my health. My first stop was at the island of Carácas, which is, perhaps, the most interesting of the West Indies. Here every language almost is spoken, including a language of their own, which is, perhaps, a mixture of all the others. I met a dentist here who has made a fortune, and whose office and fixtures would compare favorably with most offices in America. From there I went to Puerto Cabello, a seaport town on the mainland of Venezuela. Here I found it extremely warm, and remained only a short time. Here also I found a resident dentist who is on a fair way to fortune. Next I came to La Guayra; this is the seaport for Carácas, the capital, and one of the hottest places on the face of the earth. Carácas, the city of Carácas, lies in a basin on top of the Andes mountains at an elevation of about four thousand feet. It is reached by rail. The distance and straight line from the port to the capital is about six miles, but by rail it is forty. This road is one of the most picturesque in the world. There are places where it creeps along the side of an almost perpendicular mountain, where a stone dislodged by the foot of a pilgrim would drop two thousand feet before finding a resting place. This is a wonderful ride.

Carácas is a city of about 70,000 inhabitants, counting negroes and Indians, and is a city of fashion and elegance; here the Spanish people have become quite Parisian.

There are about twenty dentists here, including the barbers, who extract teeth, but only four good professional dentists. They are making money, and while I visited the city one of these dentists died of yellow fever. When his affairs were looked into, it was ascertained he had made about \$45,000 in the three years he had been in the place. I next visited Barcelona, another seaport town

of importance, two days per steamer from Carácas. Here was also a dentist, and though no one seemed to like him he was doing well.

These trips occupied about three months, and I concluded to make a trip to the interior. This I effected by means of mules. Traveling for several days I arrived in the City of La Victoria. Here I stopped for some time, and securing a room I put up my headrest and dental engine and went to work. For three months I had more work than I could do, averaging about \$400 gold per week, clearing over \$4,000 gold in the three months. In many of the places I visited I could have done equally as well as I did in La Victoria. Finally getting tired of wandering, and still not feeling well enough to return (though my health improved rapidly after the first few months), I stopped at Valencia and concluded to remain there till my health was established. About this time the revolution of which you all have heard, commenced to make itself felt throughout the Republic, and, about the first of June last, Valencia was cut off from the rest of the world by being surrounded by troops of the revolution. This continued for nearly three months, when finally, on the 17th of August, after a siege of ten days and nights, hard fighting all the time, the revolutionists took the town. A general sacking followed, and my house being in the locality of some of the chiefs of the government party, it went with the rest, besides I very nearly lost my life. I lost everything the house contained except the suit of clothes I wore at the time. But I was very fortunate in saving my life, and the new Government, which promises to be the best Venezuela has ever had, has kindly recognized my claims and will reimburse me for my loss.

Now a few words about dentistry in Venezuela. Any American dentist who understands his profession, and is a gentleman, can make money in Venezuela after learning the language—Spanish. American dentists, if they are good, are preferred in all parts of the world, and meet with a hearty welcome, and do well, yet the term "American dentist" is dreadfully abused. I have met at least a score of "American dentists" who could not speak a word of English, and had never been outside of the country.

I have met men of all nations who could not speak a syllable of our language, but who persisted they were "Dentistas Americanos," and on the street of one of the larger cities here, I met a Turk, who was "extracting teeth without pain," and selling some kind of colored water for five reals a bottle. It is needless to say that he was an "American dentist," but where he got the Americanism I am unable to say. But the time for fooling these people with un-

professional work has gone. There have been, and still are, some very good dentists in this country. Most of the well-to-do people, and they are numerous, make a trip to New York, London, Paris, or San Francisco, each year, where they have enough work done to give them an idea of good work. They are willing to pay the dentist his price in most cases, even though it is high, but they want their work done well. If the dentist makes one blunder, he might as well fold up his tent and "Vayase."

THE SCHISM IN THE DENTAL SCHOOL OF PARIS.

By George Randorf.

It is to be greatly regretted that the split in the *Ecole Dentaire*, of Paris, which has existed since the elections of the Board of Directors, in 1890, has now been officially declared irrevocable, and eight of the ablest professors have been dismissed from its service by the present management of that great institution.

Dr. Paul Dubois, former editor of *L'Odontologie*, and now editing *La Revue Internationale d'Odontologie*, has just issued a pamphlet, entitled "Is the Revocation of Eight Members of the Teachers' Staff of the Dental School of Paris Justifiable?" in which the learned professor attempts to answer that question in the negative.

The cause assigned by the present administration of the school is that the eight professors, under the lead of the former President, have established a new journal, which, by its appearance, and other signs, clashes with the interests of the "official" organ of the administration, actually competing with it and trying to supersede it. It is assumed that any injury to the school's official organ is an injury to the school itself; and therefore the final resolution of the Board declares "there is an incompatibility between the functions of Professor, Chief of the Clinic, Demonstrator in the Dental School of Paris and the qualities of Chief Editor, Secretary, Members of the Editorial Staff, or other titles connected with the journal, entitled *Revue Internationale d'Odontologie*." As an alternative, Professors Blockman, Chauvin, Dubois, Gadon, Heidé, Papot, Prével and Ray are invited either to send in a written renunciation of their collaboration in the above journal, or cease to be members of the teaching staff of the Dental School of Paris.

The answer of the quasi-excommunicated professors is that they have an indisputable right to publish their opinions wherever

they please; that it is in the interest of dental science and art that they have undertaken the publication of the new journal; that many others will follow their example; that dentistry will not be a loser by it, but will gain in influence and dignity by the multiplication and development of dental journalism; that it is a mistake to assume that their journal aims at the destruction of the "official" organ, and in case their new journal really supersedes the older one, that it is a mistake to claim the welfare of that journal is bound up with that of the institution it used to represent; and that the motto of the Dental School of Paris being "Union and Progress," they believe they are acting in the spirit of that motto.

Such seems to be the status of the case viewed by an impartial observer, and no doubt dentists on this side of the Atlantic will be interested in the final outcome of this strange dispute.

The writer of these lines will only add that, to his knowledge, this is the first case in the scientific world of France, for the past forty years, when members of a faculty have been put under ban for holding different opinions, or expressing them in their own way. The case in question then being that of a professor of higher mathematics in the *Ecole Polytechnique*, M. Auguste Comte, who has lost his position because of his own views, expressed in his work "Positive Philosophy."

A MATRIX IN FILLING.

By W. R. Sine, D.D.S.

The use of the matrix in filling proximate cavities of front teeth where both lingual and labial walls are variably broken down by decay, or abrasion, not only facilitates the process of filling, but becomes a positive luxury, converting a complicated cavity into a simple and easy one of four walls, thus allowing a direct line of approach to the lingual walls from a labial aspect, and rendering it possible to insert a filling of this kind in from a half to a third of the time it would ordinarily require.

For years, in fillings of this character, I have employed thin copper strips for matrices in fillings, preferring this metal because it is readily procurable at any electrical supply shop, also on account of its high melting point, and the ease with which it can be manipulated. Its extreme softness after annealing permits it to be easily burnished to an irregular surface, so that the operator

can produce an exact reverse of the concavity and tuberosity of the lingual surface of an incisor however deeply marked it may be. Beneath this I place a pad of bibulous paper, which I support with my finger; or I instruct the patient to close the jaws, the lower incisors (where occlusion will permit) holding the matrix in place, allowing me the free use of both hands for the operation.

I have lately, however, perfected a method and mechanical appliance that I look on as one of my most valuable assistants. This appliance transforms a former tiresome and arduous task into a mere pastime. Take, for illustration, the upper right central incisor mesial surface. The decay involves a considerable portion of the lingual wall, the labial wall is also broken. After adjusting the rubber-dam, I take a strip of copper about 30 gage, almost as wide as the length of the mesial surface of tooth, and one or one and a half inches long. After trimming one end oval, I anneal it, and insert between the affected tooth and the left central incisor, allowing the oval end to project beyond the lingual surface about a quarter of an inch, being governed by the extent of the broken wall it is designed to restore, making a liberal allowance for friable margins that will be cut away in the preparation of the cavity. I then bend the lingual end of the strip under the lingual surface of right central, and the labial end over the labial surface of left central. While holding firmly in place with the fingers of the left hand, I press on the labial end of strip, and burnish over the lingual end, easily and quickly obtaining a perfect adaptation to the lingual surface of tooth. The strip is then removed, ordinary care being observed to prevent a change in shape. After removing, the depression caused by burnishing is filled with silver solder. If an abundance of solder has been used, the result will be a matrix that has the combined advantages of solidity, stiffness, cheapness and accuracy. This can then be polished brightly on the surface against which the gold is to be packed, stiff brush wheels and pumice being first used, and then a soft brush with prepared chalk. The cavity is now prepared in the usual manner for filling, after which the matrix is readjusted and held firmly in position by a matrix clamp designed for this purpose, the clamp standing well out of the way, exposing the entire surface of tooth to be filled. After the filling is inserted, and clamp and matrix are removed, the lingual surface will be found highly polished. It rarely requires any further finishing. By the use of these appliances I insert extensive contour fillings for prices that could not be otherwise afforded. Thus gaining not only time, but the gratitude of many patients.

LABORATORY HINTS.

By William H. Steele, D.D.S.

MAKING METAL DIES FROM PLASTER MOLDS.—Take the impression and make the plaster model as usual. When the plaster sets, trim and shape it as you want the metal die; cover the model with heavy tinfoil, making a perfectly smooth fit. Now lay the covered model on a piece of glass, tin side up, and cover it all over with plaster, from one-fourth to one inch thick, making it thick on palatine part, and thin on rim; especially if there is a good deal of undercut. When the plaster sets remove the model. If the rim breaks in separating replace, and back up with new plaster mixed thin. This gives a tin lined mold for casting in. Put the mold over the kerosine stove, and, when hot and dry, pour in the zinc or Babbitt metal. The metal should not be too hot when poured. In putting the tin on the mold, and in separating the model from it, care must be taken not to tear or puncture the tin. Smoke the die, or coat with whiting, and cast the counter as usual.

ARTICULATING LOWER PARTIALS.—When articulating to the upper natural teeth, but little trouble is experienced. Be very careful and make the bearing heaviest on inside cusps of second bicuspids, and first molars; see that the plate is not displaced in closing the mouth. In articulating these partials to full upper sets, is where the trouble comes. I have made a good many sets for pocket pieces and dresser ornaments before I succeeded in doing the work with sure results. I now make the upper set first, complete it, fit in the mouth, and if for a home patient let them wear the plate till settled to place. Now take the impression for lower partial; make cast, and trial plate; try the plate in the mouth and trim to fit. Wax up with spatula and dry heat, building wax on where the teeth are to go, for the bite. Put the dry plate in the mouth and let the patient close the upper teeth into the wax; now remove all together in this position, and mount in the articulator. Grind and fit on the teeth, try in; you will probably find the articulation all right, but if you notice the slightest displacement in closing the mouth, correct it before you go any farther. I have used this method for twelve years with the best satisfaction to myself and patients.

A coarse, uncouth, uncereemonious appearance and behavior are unpardonable. Some can overcome all this by severe culture. If it is not possible, there should be a change of employment.

THE FIRST DENTAL ENGINE.

My attention has just been called to an item in the *ITEMS OF INTEREST* for month of February, 1891—No. 2 of Vol. XIII—in relation to the "Origin of the First Dental Engine," which states that "If any one knows of any other dental engine of prior claim, we should like to give it publicity."

You can publish the fact—easily substantiated—if you desire, that the first dental engine ever made was manufactured for Dr. A. T. Metcalf, of Kalamazoo, Mich., by Geo. F. Green, of that place, in the year 1866, and a few placed on the market by Dr. Metcalf that same year. In 1868 Dr. E. R. Carpenter, of Chicago, took the agency, and started on the road to New Orleans, introducing them en route.

I am of the opinion that the next dental engine was made by Dr. Morrison, of St. Louis.

I have in my possession one of the engines made for me by Mr. Green in 1868, and stamped as patented by him, which will be on exhibition at the World's Fair, and afterward will become the property of the Dental Department of the University of Michigan.

The engine referred to, made for me by Mr. Green, is a pneumatic engine, and besides running burs, drills, etc., has a lateral motion, with file carriers for separating, etc.

Probably the reason I did not see the item referred to in the *ITEMS OF INTEREST*, is that I have been out of practice for four or five years, and have no time to keep up with dental literature in the doings and progress of the profession.

If I ever get the time I purpose giving the profession some interesting information in relation to the development of the dental engine, sponge gold, and the process of annealing gold foil, as I am conversant with the origin, development, and introduction of the whole business.

A. T. Metcalf, D.D.S.

While eating supper at his home in Milwaukee, Wisconsin, recently, Thomas Flynn, aged sixty years, swallowed his artificial teeth and was choked to death. Such an occurrence would seem impossible, and yet we frequently hear of it.

CURRENT THOUGHTS.

SOME PROPERTIES OF GOLD FILLING.

Malleability and ductility are in all cases due to and dependent on cohesion, which may be defined as that force which binds and holds together the ultimate constituents or particles of any solid.

Gold in its pure state possesses this property to such an extent that two masses of it, under suitable conditions, may be as perfectly united in their cold state as they could be if fused by the aid of heat.

If two sheets of pure gold of moderate thickness, with perfectly clean surfaces, be laid one on the other and passed between the rolls of a rolling mill, they will become so thoroughly united that no amount of force can separate them. The same result will take place between a sheet of pure gold and one of pure platina under the same conditions. It is in this way that the crown-metal so largely used to-day in crown- and bridge-work is produced.

So, too, in the process known as fiber-plating, for the production of filaments from which gold lace is woven, a rod of silver is gilded by simply burnishing leaves of pure gold on it. It is then drawn into wire so fine that a length of it extending a mile and a quarter will weigh but one ounce. And how much would the gold on its surface weigh?

How is this perfect union brought about? Either one of two theories will account for it. One, the molecular theory, holds that while the attraction of cohesion operates on all solid bodies, its operation is only sensible at insensible distances. When, therefore, the molecules of the same body, or of two similar bodies, are brought within the sphere of this attraction, cohesion takes place.

The other, which for want of a better name we may call the dynamic theory, holds that the molecules of masses of matter are held together by being interlocked with one another, either naturally or by being compelled to assume such a relation under the influence of pressure.

It would seem as though, in the instances cited, both the molecular and dynamic forces operated to produce the result, for union between the metals will not take place unless they are brought into the closest possible apposition, nor will it result if the metals have been hammered or rolled and not subsequently annealed. When a nugget or ingot of gold is subjected to pressure its bulk is sensibly

reduced, but when heated to a point slightly below fusion its original dimensions are restored.

This latter process is known as annealing. So, also, when a mass of gold is beaten or rolled it assumes a condition of stiffness and intractability, but its original softness and plasticity are completely restored by annealing. These changes in the mass are explained by the universally conceded fact, that under the influence of pressure the molecules are driven into closer proximity than is natural to them, and that heat, by expanding the mass, allows the particles to move slightly among themselves, and resume, as nearly as may be, their former relations to one another.

Gold, when being beaten into foil, is frequently annealed to restore to it the softness which has been lost in the process of hammering. It also restores its cohesiveness.

Some manufacturers of gold foil have a method of rendering it non-cohesive by a modification of the process.

The process of imparting this property to pure gold is kept a secret by the few who understand it. Truly non-cohesive gold possesses the quality of softness or pliability in a remarkable degree. This it could not have without the final annealing after beating, which, in restoring the softness, would also reestablish its cohesiveness. It is therefore reasonable to suppose that it is again deprived of its cohesiveness.

We have seen a cavity filled with non-cohesive gold by pricking it in with two cambric needles set in wooden handles. The filling when completed was dense, and the layers of foil were so well united that they could not be separated. While nominally a non-cohesive filling, the layers were really held together by pure cohesion at the point where they were pricked.

Non-cohesive gold has for many years been sold and used under the less distinctive name of soft gold. The latter term, however, is a misnomer, for, as we have stated, all pure gold is soft unless this property has been interfered with by hammering or rolling. No foil can possibly be softer than cohesive foil, but the misuse of the term soft has arisen from the fact that in the manipulation of non-cohesive foil the layers will slide over one another without cohering, which seems to emphasize or exaggerate the impression of softness. The absence of this sliding or gliding quality in cohesive foil naturally but improperly suggests the idea of hardness. In large and accessible cavities, where no necessity exists for the sliding of gold on gold, cohesive foil will be found to be equally as soft and tractable as the non-cohesive variety.

S. H. Guilford, in Cosmos.

THE TEETH AS A MEANS OF IDENTIFICATION.

PHYSIOLOGICAL AND PATHOLOGICAL POINTS.

Among the physiological characteristics are:

- a. The presence of the deciduous teeth.
- b. The approaching or the accomplished change of teeth.
- c. Eruption of the wisdom teeth.
- d. The normal wear of the teeth.
- e. Interproximate rubbing surfaces of crowded teeth.
- f. Falling out of teeth in old age, with alveolar atrophy and the absorption of the alveolus.

As to characteristics of a pathological nature the following must be considered:

1. IRREGULARITY OF FORM.

- a¹. Dwarfish and mutilated teeth.
- b¹. Malformation and malposition of teeth.
- c¹. The growing together or twin formation of the deciduous and permanent teeth.

2. IRREGULARITY OF POSITION.

a². Single teeth. The teeth are then either in front or behind the arches; the crown can be turned further around its vertical axis, or it can assume a horizontal position.

b². Whole tooth rows. In this connection the protruding denture, the V-shaped jaw and the open articulation can be noticed.

3. IRREGULARITY OF STRUCTURE.

Under this head are to be mentioned erosions on the tooth crowns. These appear sometimes on the cutting edges of the incisors, which are then covered with a number of fine points or present the appearance of a half moon segment. Often the free crown surface is transversed by parallel grooves or irregularly placed pits.

4. THE LOSS OF SINGLE OR OF ALL THE TEETH.

Here is to be observed that the loss of teeth through external influences can also occur after death. In such cases it will be necessary to distinguish whether the gap in the alveola gives the impression as when the tooth has fallen out from a dead skull, or it bears signs of alveolar death.

5. CARIES OF THE TEETH.

6. ABRASION OF THE ENAMEL.

- a⁶. The grinding away of the enamel on the facial side of teeth.
- b⁶. Cuneiform defects of the necks of teeth.

7. EXOSTOSIS OF THE ALVEOLI.

There is a law in Austria requiring that a description of the teeth be always furnished when a case of identity is to be established in court. The importance of this law has been demonstrated in several cases, and a case is on record where the body of a murdered man had to be exhumed for the third time to verify the assertion of his best girl that she would identify the remains by the appearance of her lover's teeth, which she did.*

There is one case, however, which though not so interesting from a forensic point of view, is nevertheless of great interest on account of the personage involved, and at the same time illustrating the great rôle which the physiological and pathological changes in the teeth are destined to play in determining the identity. It is the finding and identification of the poet Schiller's skull. Besides the well-known size and noble construction of the above skull, the teeth were of the greatest significance for its diagnosis. "This one must be Schiller's skull," exclaimed the gallant burgomaster of Weimar, Karl Leberecht Schwabe, when twenty-three skulls were placed on a table side by side, the excavations of which from a neighboring grove the chief magistrate had been watching every night. He also distinguished it by the regularity in the horizontal direction of the beautiful and well preserved teeth, which satisfied Goethe in the identification of his friend's remains.

Vierteljahrs. für Zahnheilk.

MICROBES AND AN ABSCESS.—You have all no doubt heard or read of Metchnikoff's vivid description of an abscess. He likens specific inflammation to a warfare, in which the invading army is represented by micro-organisms, and the resisting force by leucocytes. Even in details the analogy was maintained. Notice of the arrival of the invaders was telegraphed, so to speak, by the vaso-motor nerves; the line of communication, the avenues of mobilization, were represented by the blood-vessels. The aim of the invader is to secure the territory, to multiply rapidly, to live at the expense of the host, and to manufacture and circulate substances injurious to him. The aim of the resisting forces is to encircle the enemy, inclose him, digest him, and render him inert in battle. Many phagocytes die in the process, and if in large numbers, the heaps of the slain represent pus. An abscess, therefore, is a battle-ground, densely packed with dead bodies.

D. V. Beacock.

* For many other cases the reader is referred to Dr. Rehfuß' "Dental Jurisprudence," published by The Wilmington Dental Mfg Co.

NEEDED REFORMS IN DENTISTRY.

The first reform to which I would call your attention is that students graduating from some of our dental colleges be not taught that the college from which they graduate is the only one teaching the latest improved methods in the practice of dentistry, and the graduates should not be sent forth with the idea that they "know it all." They will find a few dentists, perhaps, practicing in the country who have stood the heat and burden of the day for lo, these twenty years, and who know a little something. The student is not entirely to blame for this for he is taught thus, and the egotistical ones carry it away in a great degree. I have had not a few experiences with these, and this has led me to suggest the first reform.

There may be some dentists with long necks and cross-eyed one way that might be successful in filling proximal cavities in the anterior teeth from the lingual side, thus preventing much gold showing from the front. Some claim that by the use of the mirror they can accomplish good results, but I am led to advocate a reform in this method, first by securing plenty of room by the use of wedges and time, and thus filling from the front. Better work may be done in this way with less inconvenience. In the practice of filling proximal cavities in bicuspid and molars with amalgam, without proper separation, there should be lasting reform. It is so easy to run a file between the teeth; cutting away more tooth substance than is necessary; to use no rubber-dam; to clean out the cavity hurriedly; insert the amalgam; run a thin bladed instrument between the teeth; take out the surplus amalgam with a thread; wipe off the excess on the grinding surface with a piece of wet punk, and dismiss the patient.

May I ask in what condition these cases are likely to be found? Usually with flat surfaces nearly in contact, with sufficient amalgam between the teeth to fill several cavities, with space enough to allow the packing of food, causing irritation to the mucous surfaces and great annoyance to the patient. The patient tries in vain to get out the pieces of amalgam with a wooden tooth-pick, and failing, applies to the dentist, who then uses a thicker file to dislodge the excess of amalgam. This, of course, leaves a larger space between the teeth, but the patient is consoled by the promise that when the third molars erupt they will press the other teeth forward so as to close the spaces.

This picture is not overdrawn one iota, and it all might have been avoided by gaining proper separation before operating.

Amalgam is all right if it only receives the attention it deserves. Were these same proximal fillings to have been of gold, separation would have been demanded regardless of time, because with gold, the operator must see what he is doing. I ask for the reform that the same consideration in this particular be given to amalgam as to gold.

Consider a large cavity on the anterior proximal surface, extending well on to the grinding surface of a superior first molar, second bicuspid absent, and the antagonizing lower tooth articulating amidships. This tooth would have demanded heretofore a large contour filling with screw anchorage, requiring time and patience for its insertion. When finished it might appear a monument to the skill of the operator, but the first closure of the mouth with some hard substance between it and the opposing tooth would dislodge it. The reform I would suggest for this is a gold crown completely surrounding the tooth, thereby making the operation permanent.

Suppose a cavity on the distal surface of a lower second molar, with pulp exposed, the third molar in place, and the first molar absent. It is far better in this instance to extract the second molar, and bridge from the third molar to the second bicuspid, than to attempt a filling. The patient may object to this, but right here a reform is needed to impress patients that they must not place their ignorance against your experience. You all know the annoyances of a cavity in this particular place.

Generally the crown of the second molar faces toward the front and the third molar tips forward more and more every day. I feel very anxious about this particular reform, for I have passed through all the tortures incident to such a cavity, and after suffering for years, thanks to our worthy President, I had the second molars removed and bridges made, one on either side. No tongue can describe the comfort I now enjoy, and this brings me to the consideration of crowns and bridges.

One day when I returned from the noonday meal I found sitting in my office a friend from a neighboring State. The first thing that attracted my attention was the appearance of his upper central incisors. I looked at him in horror, for the two central incisors were capped with gold. They appeared as if the cutting edges of the teeth had been ground down about the sixteenth of an inch, an impression taken and caps struck up to fit the teeth. The caps did not reach the gum by a line nor did they fit the teeth snugly. They stood away at least a line, and the border next to

the gum was left with a square angle between which and the gum there lodged the remains of several meals. Unfortunately this man has a short upper lip and thin mustache. Every time he laughs he shows the upper teeth as far as the second molar, and these two crowns of gold glare in the sunlight. The work was done by a graduate of a college which claims that what its graduates don't know is not worth knowing.

Next, a gentleman called to inquire about a friend. He had a bridge of four upper incisors, anchored to the cuspids with caps of the same kind referred to. There was the same space between tooth and cap, and cap and gum, allowing the lodgment of food, and in this case something worse, for the man chewed tobacco. Fortunately the incisors were porcelain faced.

I might mention other cases similar to these that have come under my observation, but these two will be sufficient to call your attention to a needed reform in this direction. Briefly stated, a crown on any of the six anterior teeth should be porcelain faced, the gold band should not only go to, but under, the gum fully one-sixteenth of an inch all round the neck of the tooth to be crowned. The band should be free from irregularities, and should fit closely, and be burnished so smoothly that no irritation will ever occur to the soft parts.

If this is done, food or other deleterious matter cannot lodge around it.

It is not always necessary to remove the pulp of a tooth to be crowned. I have set a number without doing this, and have four in my own mouth, the abutments for bridges. The pain is more severe in preparing the tooth for the crown, but I believe a better feeling is given the patient after the crown is on a few days. Cold water held in the mouth will lessen the pain and hasten the setting of the cement.

There is not enough machinery used by the majority of dentists. I feel sorry for those who are still pounding away with the automatic mallet. The instrument is good enough in its place, but why torture the patient with its thump, thump, thump, when the electric or Bonwill machine will do the work in one-third the time?

The patient may be dismissed sooner, and it is better for every one concerned. I called on a dental friend of mine last fall in a neighboring State, and almost his first salutation was that he was very busy—worked from daylight till dark. I asked him of what his practice mostly consists, and he said operating. • (Of course no dentist nowadays would admit that he labored in the laboratory.)

On inquiry as to what he had to assist him in his extensive practice, he answered two automatic mallets.

After twenty years spent in the practice of dentistry, I have reached this conclusion, that there is nothing too good for the dentist in his profession, socially or spiritually. He is entitled to the best of everything, the best appliances suited to his skill, and his machinery should be run with power outside, and with brains inside, himself. If there is water power in his city, he should use water motors; if no water, use electricity; if no water nor electricity, hire some one to mallet and run his engine for him. What is fifty or one hundred dollars properly invested in the best dental appliances compared with the convenience of having machinery that will go by simply pointing the finger at it. The dentist has enough worry and vexation of spirit without being deprived of the many improvements that money will buy. I am almost willing to guarantee that within six months after one hundred dollars has been paid out for this labor-saving machinery, enough extra work will have been secured to more than pay for this expenditure. Again, and lastly, the dentist who has so far succeeded in educating the community of which he has been a member up to the necessity of caring for and preserving the natural teeth, is deserving of a crown—not a porcelain crown, nor a porcelain faced crown, but a crown of gold surmounted with points, and each point set with a diamond of rarest beauty.

J. W. Cormanly, in Illinois Society.

A NEW PREPARATION OF GUTTA-PERCHA.

In setting crowns of porcelain with platina pins extending into the roots, and for setting gold crowns and caps, I find a filling made of vermilion and gutta-percha of service.

This is made by mixing with heat and careful working one part of gutta-percha and three parts of vermilion. This combination resists the destructive action of the mouth much better than the usual combination of gutta-percha and oxide of zinc. For buccal cavities, where the ordinary gutta-percha filling softens on the surface, it is of value. A whole list of gutta-percha stoppings can be prepared without the use of oxide of zinc, which are interesting as experimental, and I shall hope at some future time to report on these. The combination of iron oxide with gutta-percha is one of these, and favorable results seem to have been obtained with this mixture, but it takes years to determine their relative value.

W. H. Rollins, in International.

NITRATE OF SILVER IN PYORRHEA ALVEOLARIS.

Dr. J. E. Cravens : The patient was a man of fifty years, robust and apparently in good health. The gums were red and angry-looking, bleeding easily and freely ; expressed considerable pus from about the anterior eight teeth of each jaw, the festoons between which were swollen and of a violet color ; "pockets" on the proximal faces of the pus-discharging cases. Treatment was begun on the 18th of July, with the removal of the incrustations and trimming of the margins affected as far as possible, the "pockets" being washed out with hot water and carefully treated with dilute sulphuric acid (1-10). Pulverized sulphur, as a dentifrice, morning and night, was directed, and the use of soap and other alkalis in the mouth prohibited. After three days' daily treatment, but little improvement being manifest, the dilute sulphuric acid was substituted by a 10 per cent. solution of nitrate of silver, the washing with hot water being continued. No caustic action and no pain from the lunar caustic solution was observed. The next day no pus could be expressed, except from between the lower centrals and right lower cuspid, and from between and around the right superior cuspid and lateral, which were the seats of the deeper pockets. Again washed out and treated with nitrate of silver. On the 25th congestion was gone, except slight violet tint over roots of inferior centrals, right inferior cuspid, and right superior lateral incisor, with only slight evidences of pus from these localities. Treated as before. On the 26th no pus, except a minute quantity from one side of the right upper lateral incisor. Gum completely free from swelling. Again washed and treated. The next day no pus at any point ; gums apparently healthy, and patient reported entire comfort. Again washed and treated as before. On the 29th no pus ; "pockets" evidently filling up by adhesions. Again washed out with hot water, and treated with the nitrate of silver solution.

We noted that the nitrate of silver caused a slight brownish discoloration about the necks of the teeth treated, but it exhibited no caustic action whatever. We thought its astringent and antiseptic effects were emphasized by the thorough washing out of the "pockets" with hot water at each sitting, and believed that the preliminary use of dilute sulphuric acid aided in removing small particles of calcareous matter from the "pockets" and stimulated granulation. The case appeared to be cured, and in an incredibly short time, though it will be under observation for some weeks.

Dr. A. W. Harlan, Chicago, Ill. : The subject under discussion

is the treatment of a single case, and not the etiology of the disorder or a multitude of remedies for it. There is no objection to the use of dilute sulphuric acid as a preliminary step, because it contains 13 per cent. of the acid to 87 per cent. of water, and is then diluted ten times, so that when brought in contact with the soft tissues it does no damage. Nitrate of silver is an excellent remedy, and has been used for many years, but not in so concentrated a form as described by Dr. Cravens. It would be a powerful astringent, and the reason why it would check the flow of pus and close the "pockets" would be because of its astringent and stimulating effects. To say that the case was cured after eleven days' treatment is hardly credible, because it would be almost impossible, if one-half the depth of the roots were involved, for the tissue to be reproduced in that time. The use of hot water is an excellent idea; in a great many cases better than many other agents which are used. Dentists fail to utilize hot water as a therapeutic agent as much as they should, and Dr. Cravens has made a good point in calling attention to it for producing an effect on the gums. I dilute sulphuric acid with cinnamon water, because I believe I get a better effect than when using water.

Cosmos.

CARIES.

Generally speaking, the whole range of pathological conditions to which the teeth are subject, may be classified under two heads:

1. Disease affecting the crowns of the teeth.
2. Disease affecting the roots and socket.

Except traumatic lesions, both these classes of disease are preventable by conscientiously following strict rules of hygiene. An attempt will be made later on to formulate these rules.

It requires no argument to persuade you of the truth of the hypothesis that "the disease known as dental caries will not occur except where the causal microbes are permitted to grow undisturbed on the teeth." The rational conclusion is, then, that if the teeth are not allowed to accumulate deposits on either their exposed or protected surfaces, they will be exempt from caries. More broadly stated the proposition is:

Given the varying predispositions of different individuals to

caries, which is governed by the laws of heredity and environment, the growth of micro-organisms in the mouth is in proportion to the amount of disturbance they suffer, or rest and opportunity they enjoy. That is a recognized fact, and almost axiomatic.

Is the practice of dentists as followed in the daily routine of seeing patients consistent with these undisputed etiological facts? We all know it is not.

Plainly, then, one great step in the direction of the establishing of correct habits of cleansing the teeth in the general public is to be accomplished by reform of the dentist, making obligatory on him the performance of his duty. Similarly, as public sentiment now requires a man to be a graduate of a reputable college before entering on practice, so can it compel him to teach oral hygiene and require his patients to observe its rules.

For the purpose of convenience, allow me to place people in three classes with respect to the care they give their teeth. A few people by assiduous, intelligent care and a natural tendency to cleanliness in the teeth themselves, have clean teeth from year to year; the proportion is very small indeed, say 1 per cent. A second class are just as anxious and spend as much time, or perhaps more, but their efforts are ineffective because misdirected and on account of unsuitable cleansing implements and materials. But most people give to their teeth slovenly care.

If we are justified in assuming that caries and pyorrhea alveolaris, the two diseases most destructive to the teeth, only occur in the presence of foreign matter which is allowed to accumulate on them, we next want to know how to prevent the accumulations.

My own belief is, that it is possible in most cases for the individual to keep the teeth free from all deposits and food *débris*. I have been led to this belief by the study of several cases which have been under my care and observation for some time past.

At the first appointment examine the mouth as to the degree of cleanliness usual to the person, and make a note of the conditions in the record book for future reference. Catechise the person to ascertain what are the present habits as to the number of brushings per diem, dentifrices, floss, tooth-pick, etc. Make notes of each point. Then show to the person with mirror every part of the teeth which is unclean. The patient may apologetically, or even indignantly, say that it is impossible to be more thorough than he is. It is not prudent to deny this at the time if you wish to accomplish your purpose, unless to explain that you may be able to help him to be more successful. You must gain his good will

and inspire the desire by giving arguments for ordinary (ordinary in its new sense) cleanliness, and explaining its benefits.

It is now proper to scale and polish perfectly each tooth. The mirror should now be used again to show the patient the change. Now is your time to teach a lesson of the most forcible kind. Say to him, "It is quite possible for you, by your own efforts, to keep every tooth in your mouth absolutely clean." Make this statement positively and dogmatically. With the effrontery, if you please, of a bichloride of gold doser promising his dupe a sure cure. The moral effect of such an assurance and the placing of the responsibility where it belongs will be very helpful.

The instructions in the daily care to be given the teeth should now be distinctly and carefully impressed on the patient's mind. Printed directions for children might be useful, but I have never tried them.

Now, you may say all this and more—some people will acquire the habit easily—others, never. It is your business to labor patiently to the right end.

At the next appointment, for a filling, perhaps, make inquiries to see that your instructions have been followed.

If they have not, in every detail, reassert the necessity for it, refreshing the patient's mind, and, in some cases, demonstrate with a brush the practicability of your statements. Be careful not to lay down more rules than can be followed.

This system of following up the matter as long as the appointment lasts, seeing to it that the patient's efforts are sustained and effective, and that the habit is formed, are the most important and valuable services you can render in your capacity as a dentist.

The task is not a thankless one; your labor will invariably be highly appreciated, and as these patients come back to you from time to time, it will be one of the greatest satisfactions of your professional experience to be able to say, after the most conscientious examination with the most searching of fine explorers, that you find no decay—no pockets.

Now as to rules: Of first importance, of course, is the use of the brush. Twice daily is sufficient—at night before retiring and in the morning. It is of the utmost advantage to have three brushes in use. This is imperatively required—*three brushes*. A brush will not do effective work unless it has time to dry out. The bristles will always be too soft if it is used more than once in twenty-four hours. More good is obtained by this than one would expect without trying. What is known to the dealers as "medium" grade of

stiffness is the best. To the well kept mouth with all its parts and members in a healthy state, a good vigorous brushing with a moderately stiff brush is a pleasurable sensation. Three brushes in use at the same time will also give longer service than if bought consecutively.

The usual instructions as to vertical movements should be given. Special directions are necessary to make the patient reach all the accessible surface. Remember that few people do this. It becomes your duty to dispel the common delusion that the last molar and lingual surfaces cannot be brushed. Any one can touch all these surfaces who will use his brain, and for a time watch himself during the process. The old slovenly or thoughtless habit is to be broken up and a new set of movements learned. Insist on thoroughness, and keep on insisting.

Dentifrices: Some form of powder is the only proper dentifrice, and it should always be used whenever the brush is used.

A pound can or bottle from which the small bottle for present use may be replenished is indispensable in preventing a giving out of the supply and a consequent deposit of calculus by a few days' forgetfulness to go to the druggist. Aim to make the powder as agreeable as possible, especially for children.

Women and children can be induced to use floss silk or rubber bands for interdental spaces at least once a day. Men should be encouraged to use the tooth-pick.

Disinfectant and antiseptic washes are allowable and useful, but should not take the place of powder applied by brush at the stated intervals. As a rule I recommend it only in special cases. The best results are obtained by the simplest means faithfully employed. It is more than probable that the individual whom we have in hand will have anywhere from three to a dozen appointments for the other needed operations. Opportunities are thus afforded to assist in putting him on the right track. You have given him a good start—how shall he be watched?

One or two months later, by previous arrangement, he must be summoned to your office for inspection. Perhaps—yes, usually—a little scolding and lecturing will be necessary to put him right. At suitable intervals he must be notified again, and both of you will be delighted at the fine appearance and freedom from disease presented.

My own experience is that it is not a difficult matter to bring about this happy condition, and one success pays for a score of failures.

RESUMÉ.

A statement to the patient of the advantages and desirability of absolute cleanliness of the teeth.

Namely, that it affords immunity from caries of crown and loosening of tooth in socket.

Economy of time.

Economy of money.

Economy of pain, and preservation of natural teeth all through life.

A statement of the means to be employed to maintain absolute cleanliness of the teeth.

Establishment of habit.

Brushing the teeth three times a day.

Thorough brushing of labial and lingual surfaces twice daily with powder.

Silk, rubber bands or pick.

Regular visitation by appointments for inspection and instruction.

J. W. Wassall, in Dental Review.

TOOTHACHE: ITS DIAGNOSIS AND TREATMENT.

The first and most important thing to consider when a case is brought before our notice is the diagnosis. To the patient who comes for relief, whatever the cause, it is to him simply a toothache and nothing more, and that is sufficient. But to us as diagnosticians it is of importance to know for a certainty the cause; whether, for example, it arises from irritation of the pulp of the tooth from exposure, or of the periodontal membrane, or because of some obscure pathological condition elsewhere. The diagnosis is not always easy. Ordinarily, when the patient presents for relief, we have little difficulty in discovering it. We find the cavity, and within it a pulp in a state of irritation; the proper remedy is applied, and the patient goes gratefully away. But sometimes we are embarrassed. There are crowns in every state of disintegration; root canals in all stages of putrescence and the development of gases.

Again, there may be no open cavities, but many teeth filled; no appearance of anything wrong, yet the patient suffers. The pain may come from exposure or near exposure of the pulp through

a prolongation of a cavity not apparent to the eye, or the pain may arise from a metal filling placed too close to the pulp without adequate protection, or it may be developed from incipient inflammation about the root of a dead tooth. Impacted wisdom teeth are frequently painful to the patient, or it may be osseous deposits in the pulp chamber and canals; or the pain might have its origin somewhere else, and is felt in a tooth through the reflex action of the nerves. Rheumatic, gouty, hysterical, and neuralgic people, and women during gestation are subjects of these irregular phenomena. It may be from different metals in contact, or near by, producing an electro-chemical action. Though this, perhaps, is more theoretical than real. I have never seen such a case.

In reducing diagnosis and treatment to general principles, let us commence with the simplest. Fortunately for us, these cases of difficult diagnosis are rare. The patients who come to us for relief are usually suffering from either inflammation of the pulp or of the alveolo-dental membrane. My plan is to remove the *débris* and decalcified dentine in the cavity, being careful not to wound the pulp, and then fill with oxyphosphate, leaving enough of the decalcified dentine over the nerve to protect it, after first sterilizing it with bichloride of mercury. If the pulp is exposed, or nearly so, I make a medicated soothing pad of eugenol, oxide of zinc and a few threads of Japanese paper or cotton. This I place next to the pulp, and, after taking up the surplus moisture from the pad with absorbing paper, fill the cavity with soft cement with as little pressure as possible. A cement which does not knead up softly should not be used.

If the patient has a violent and jumping toothache, aching persistently, especially at night in bed, I devitalize the pulp. I first apply something to reduce the pain. I prefer eugenol, as it seems to leave the pulp in a receptive state for the arsenic. The latter I prefer to other agents, because it leaves the dead pulp in a better state for removal. At times we have neuralgia, but this usually disappears after direct treatment to the tooth.

Sometimes it is difficult to know if it is really a case of inflammation of the pulp, or if, it being dead, it is inflammation of the alveolo-dental membrane. The patient is feverish and apprehensive, and incapable of giving much assistance in the diagnosis. Test with cold water, watching the expression of the patient; if the pulp is alive there is generally no mistaking the fact, but it may be from an improper filling. Generally, where there is no marked indication there is inflammation of the alveolo-dental membrane. We must

search for cavities, and sound suspected teeth for tenderness. We must study the color of the gum, must interrogate the patient as to the symptoms, and when we find as a result of the examination that one tooth is more sensitive than others, and that the patient complains of a dull, heavy pain, and reports that the tooth seems to be longer than the others, and that drinking of hot liquids was painful, and cold not so, we may with confidence look for relief by boring into that tooth to give a vent to the confined gas. If the vent gives no relief by removing the pressure, we must "do all things to conciliate; failing in that, all things to crush." Toothache of this kind is one of the most distressing ills that human flesh is heir to, and owing to its situation and the nature of it, it is often difficult to give that speedy relief the patient longs for. Owing to the pain, and the absorption into the system of poison, constitutional disturbance is associated with the trouble.

The first thing indicated is to reduce the inflammation and prevent its further progress. If suppuration has not already advanced too far, blistering pads (I make mine of red pepper and cocaine, sewed up in little bags nearly covered on the surface with chlorapercha, or strips of felt covered with wet gum tragacanth and pepper dusted over that; the gum softens in water, but does not dissolve), aconite and iodine, or strong iodine, can also be applied. I recommend a hot foot-bath, a dose of Epsom salts, and six-grain doses of antipyrin, or apply leeches over the root. A lotion of cocaine, aconite, chloroform, and iodine, rubbed somewhat forcibly on the gum with the end of the finger, has a benumbing effect. Failing to get relief within a reasonable time by this, we must turn our attention to hastening the process of suppuration and the discharge of the pus. Hot poultices,* having two or three drops of laudanum on each, should be applied, so as to assist the pointing to the right direction.

There are hopeless cases where the use of the forceps would be a mercy, and a possible insurance against much misery in the future. But judgment, qualified by honesty of purpose, should rule before the dentist yields to the suggestions of the patient and his own convenience, and extract a tooth that might be retained by proper treatment.

Erosion or wearing down of the crowns often gives rise to annoyance. The only thing to do is to cover with gold. Chloride of zinc gives temporary relief, and so does the nitrate of silver.

* We presume the writer means on the gum. Poultices on the cheek are not admissible.
—ED. ITEMS.

But if the case be beyond filling, the nerve should be killed and removed. The same with erosion on the buccal sides of teeth, which is different from the other class. The solvent in this case must come from the mucous membrane directly opposite and in contact. Where all of the teeth seem to be sound, but their necks exposed and the gum in an unhealthy state, it is difficult sometimes to locate the pain. The patient himself is not sure of the tooth. Sounding gives no response, cold water sets all the teeth aching, as does cold air. Ordinarily, the pain passes away with the cause; at others it is persistent. The cause of it is exposure,—not enough covering over the cementum, which is not as thick over the nerve or as dense as dentine, and needs the further protection of bone and gum. Isolate the tooth giving the trouble. Bore into the tooth, inserting a little eugenol, sealing up with gutta-percha. This method has the advantage also of testing the tooth as to its vitality. Sometimes, where the destruction of tissue is very great, the only thing to do is to kill the pulp, after being sure of the right tooth. Exercise of patience and perseverance. I have recently had experience in being misled by sympathy. I had a toothache which, I thought, was in the left upper cuspid. I rejoiced at the idea. I wanted to experience clinically, on myself, the different phases and symptoms of toothache. I did not ask for sympathy, which is not usually given to dentists, but when I was unable to find any cause for the pain, and it was growing unbearable, I consulted my friend, Dr. Schaffner, who, not finding any trouble with that tooth, commenced sounding all the teeth on that side, and when he reached the wisdom tooth I responded. Up to that time I had no suspicion that there was anything wrong with that tooth.

In doubt, do too little rather than too much; be governed by general principles, and treat topically.

A. V. Elliott, in International.

Who has not been annoyed by a crotchety patient in making plates? If you have, then adopt the practice of placing the teeth on a gutta-percha or other rigid trial plate and making necessary changes before going on to completion of the work. You thus respect your patient's judgment as well as save frequent annoyance.

COHESIVE GOLD FOR FILLING.

From an ingot of pure gold, how can we make cohesive, semi-cohesive and non-cohesive foil?

We are well informed of the fact that cohesive foil loses its welding properties if long exposed to the air, or by gases or other impurities.* Heat expels them and restores the original properties, but to what treatment can we subject soft foil to increase its non-cohesiveness? Is it a trade secret?

In the order of merit I consider "gutta-percha" the very best for doubtful and frail teeth. Next comes *tin foil*, then soft gold foil, and, last in the list, cohesive and the many forms of gold which require welding in their manipulations, while the plastic fillings, such as the oxychloride and phosphates, are uneven or uncertain in their results, yet, nevertheless, indispensable, while amalgams come in to cover for us a multitude of sins, tiding over many a troubled sea, and saving more teeth than any one of the other materials, and possibly more than *all* of them.

For the present I would ask your attention to some advantages of soft gold. Hill's stopping and tin foil respond too quickly to the wear and tear of mastication. Why does the farmer plug the tap-hole of his cider-barrel with a spile made of pine rather than hard wood? Simply because it makes no leakage. For the same reason a boat-builder stops up the holes made in his planks by the withdrawing of nails or screws with soft wood.

The plug must be softer than the material into which it is driven. When you put a soft foil filling into a tooth, you have these same conditions present. You will agree with me that it is not the most solid filling that preserves the tooth, but rather the one that is the best adapted to the inequalities of the cavity, especially the marginal walls,—the one which excludes air, moisture, and germs, and includes sufficient hardness to withstand mastication.

*In all these requirements soft gold stands foremost. It is impossible to make as hard a filling as with the cohesive, though it will be dense. It is like putty, though you work it ever so long, when you have finished your labors it is putty still; you have not changed the character of the material. Again, the arrangement of the cylinders in a soft filling is more conducive to a perfect stop.

Will you bear with me while I describe briefly my method of preparing and working the foil? I use Abbey's foil, Nos. 3 and 4,

*Dr. Watt, maker of the crystal gold, once showed me some of his gold that had been four years exposed, that was soft and cohesive still.—ED. ITEMS.

nothing heavier. Take a sheet and fold the edges together, once, twice, thrice, smoothly, making a ribbon of eight thicknesses of foil, about one-half inch wide, then roll or twist into a coil or rope, being careful to keep the surface of the foil smooth. Now with scissors cut into pieces just long enough to suit the cavity to be filled. By that I mean that one end of the coil shall touch the bottom, the other projecting just beyond the orifice. With your tweezers take up a piece of foil and carry it into one corner or angle of the cavity, cut end down, so the coil shall stand on end, condensing toward the distant wall. Using the side of your plugger, another piece is placed alongside, and still another, till you reach the other angle. The size of the cavity is now reduced. Repeat this operation till your last coil is in position. Now with the point of the plugger condense the surplus gold projecting above the tooth, keeping it well over the cavity. This is important. In condensing the gold you will find the weak places in the plug. Send the instrument well to the bottom of the cavity, using lateral wedging pressure. Fill up this pit and look for another. If possible, make these pits a little way from the enamel of walls, so as not to mar or grind the tooth under the instrument. Each piece of foil introduced in this way acts on the filling as the keystone to the arch, the filling being a series of arches. After this is gone through with to your satisfaction, use your burnisher, and use it thoroughly.

What becomes of it? Every piece of gold presents its edge or end to the action of the burnisher (shall I liken the filling to a bunch of asparagus standing on end?), and the action of the burnisher has forced, swaged, molded, or moved the mass in the same manner, but to a less degree, "than the warm burnisher does the gutta-percha plug," bulging the gold toward the walls of the cavity, filling up every inequality and securing for you a perfect stopping.

I start the filling with soft foil, working in the manner I have described, only taking more time to condense the gold as the use of the burnisher, which I emphasize so strongly, is prohibited; therefore the plugger is used a longer time.

A sheet of No. 3 cohesive foil is cut into four pieces, these pieces rolled into coils, each coil cut, making two or three short ribbons; pass one of these ribbons through the blaze of an alcohol lamp, taking care not to burn the foil. Some operators make a mistake in the use of heat. The less used, and sufficient to work your foil, the better. With the foil-carriers set it against the plug, and with rather a coarse instrument carry it across one edge of the filling; then, with a fine-pointed instrument, work it persistently;

retrace your steps; add another coil, working on the former cohesive part, and overlap onto the soft filling slightly. The advantage of this method is a perfect weld. I have no difficulty in welding cohesive foil onto a soft filling, and never make a filling entirely of cohesive foil.

Soft foil can be used with a minimum loss of tooth substance, especially in proximal cavities of the incisors. I believe in the free use of files and chisels. Soft gold demands it, but the manner of working it by wedging enables the operator to fill without cutting a direct opening to the cavity.

The soft foil may be abused, yet can hardly change its character; but not so with cohesive; it responds quickly and resents every abuse. Virtue goes out of it at the first, and these conditions require a generous opening or channel, and often that is made from the labial surface. This result, while it caters to the vanity of a few patients, filling the heart of the operator with pride, is poor taste.

I do not think the art of filling teeth with soft foil an easy one to attain, for it requires much time and practice, and the results are not so pleasing to the eye. In appearance they do not compare with cohesive work, but they have one strong virtue, they are honest, even better than they look, as the fillings of Drs. Wetherbee, Pray and Johnson, done thirty, yes, forty, years ago, show to be. I have reached the conclusion that the man himself is greater than his school or methods, but I ask you not to let go of all the ancient landmarks. Instruct your students in the art of making soft foil fillings; there is merit in them. They are to dentistry what bread is among our food supplies.

C. H. Garrish, in International.

For "keeping cool" during extreme hot weather, "The Meston Alternating Current Motor Fan" is admirable. The new model of 1892 is very complete. It can be used wherever the alternating current is used, can be placed in any part of the room, and moved at pleasure. Connects directly to socket of your incandescent lights. It is not a toy, but perfectly built, strong, durable, and a handsomely finished machine, and costs from one to two cents per hour to run it, furnishing a great deal of comfort to the operator. Commanding a cool and refreshing breeze, when most needed.

COMMENDABLE.

Dr. Suddeth writes from the Dental Department of the University of Minnesota :

Our class is somewhat increased and could be materially enlarged if we did not require a high standard. We sift out very severely. In the two years I have been connected with the college, 106 students have applied for admission to our Freshman class; out of this number only 74 have been admitted, and out of the 74 only 48 are in attendance to-day. I stopped 6 on the entrance examination the fall of '90; 10 the fall of '91, and 16 this fall, making 32 in all. This fall 40 applied for admission, out of which number 24 were admitted to the Freshman class, and 8 have entered what we call our "Preliminary Year," thus taking four years. Out of the 24 admitted to the Freshman class, 11 presented high school diplomas; 2 came from the Literary Department of our own University; 1 from Albert College, Ontario; 6 brought certificates of having passed in the studies required, *viz.*, English, common Latin, algebra, and physics in high schools or academies, and 4 only passed the entrance examination out of 16 that tried. I have not only talked "high grade" since I came here, but I have practiced it, as you will see by what we are doing.

All our dental colleges are requiring higher attainments to even enter our schools, and they are much more strict in their final examinations for diploma, though perhaps few could show the care shown by Dean Suddeth. This will keep the classes small, low for awhile, but will give a high standing to the college and graduates, and both must ultimately attract the better class of dental students. Let this example be generally followed, and though we might have less in attendance at our colleges, we should have better graduates.

WALKING.—Walking, if properly and regularly followed, would become not only a restorer of health to many who to-day are on the road to disease, but also a source of pleasure. Let the arms swing if you feel like it, and the limbs, too; open the nostrils and fill the lungs, and the movements will send a gentle electric vibration through the entire body, the result of which is the awakening of new life.

Never take the lazy gait, as it soon makes one tired, and produces languor. A little perspiration on the "home stretch" may prove to be a blessing, not only in carrying off the matter from the

body, but in bringing an increased supply of oxygen to the blood, and putting the blush of health on the cheek.

Perhaps the best time to walk is in the early morning. The air is then the most highly charged with the life-giving oxygen, and the freest from dust, smoke, etc., of traffic, which rises later in the day. At this time also the mind is liable to be more free from worry and anxiety, hence in the best condition to drink in the blessings of freshness for us on every hand.

Dental Register.

THE MORAL SIDE.

In an address before the Marion-Sims College (*Alienist and Neurologist*, July, 1892), Dr. C. H. Hughes says:

The study of the physician includes the moral as well as the physical well-being of man, for the purity of the soul has much to do with the health of the body. The purity of the heart and the dominance of the body by principles of rectitude has much to do with the health and consequent happiness of present and succeeding generations. The direct and hereditarily entailed diseases which are the offspring of sin, and *vice versa*, which have filled and are filling the land with misery and woe, both physician and divine are alike especially interested in preventing. The psychology of sin and the pathology of crime are studies alike for doctor and divine.

The man who is sick in his soul is seldom well in his body, and the soul's affairs do not prosper well when the body is disordered.

Like the divine, the physician may also aid in healing "wounded in spirit and the broken-hearted," and in "binding up their wounds." He may "minister to a mind diseased," and "with sweet oblivion's antidote cleanse the stuffed bosom of that perilous stuff which weighs on the heart." He does this effectually through the modern successful management of melancholia.

Medical and Surgical Reporter.

SUGGESTIONS FOR USING DIAMOND DRILLS.—When drilling a cavity with a diamond drill, oil only should be used as a lubricant, thus preventing the drill from becoming heated, which would cause it to tear out; also, when drilling a cavity, two drills should be used of different sizes, the larger one to widen the cavity, and the other for the retaining points. When properly used, these two drills should last until the steel which holds the diamonds is actually worn away.

A Maker of Them.

ASEPTIC TREATMENT.

Modern aseptic dentistry consists in sterilization by germicides, dessication, etc. A fresh wound, if made aseptic, will heal by first intention; but if pyogenic germs are allowed to enter in any manner whatever, pus will be formed and trouble ensue, provided antiseptics are not carefully used.

In all those cases where the pulp chamber is opened for the first time, as in the removal of a living pulp, or a pulp destroyed by the operator, we should never have an abscess occur; indeed, it should be impossible except through direct infection.

An intelligent physician or dentist can now do almost anything he pleases, provided he conforms to aseptic and antiseptic methods.

In this way bacteriology may be said to have revolutionized the theory and practice of dentistry and medicine.

Aseptic treatment means to preserve a clean wound from septic infection. Antiseptic treatment simply means the prevention of further extension of existing trouble. The one may be said to prevent fire, the other to extinguish it. For a similar reason antiseptics are not disinfectants; they do not destroy micro-organisms, they only prevent or inhibit their growth. A germicide may be all three, antiseptic, germicide and disinfectant.

To the physiologist, bacteria are subjects of the greatest interest. Only think of the occult manner in which they produce the deadly and poisonous ptomaines, the mysterious character of fermentation, which is in numerous instances produced by them, lactic fermentation or the souring of milk, ammoniacal fermentation, vinous fermentation, the rotting of fish, meat and other nitrogenous substances; in fact, all putrefaction is the result of the ceaseless activity of these countless organisms.

D. V. Beacock, in Dominion Journal.

THIN RUBBER PLATES.

To secure the maximum strength without increasing the thickness of vulcanite plates it is necessary to make the mold so smooth that the rubber, when removed from the plaster, needs only the brush wheel to finish it. To accomplish this, first saturate the model with water, then dip it in a vessel of clean melted base-plate wax,

and lift it out in such a way as to allow the wax to flow off easily. I find that it is best to dip the back of the model downward. The surface of the wax in the vessel should be free from bubbles. If the first dip should not secure a smooth surface, the wax may be peeled off, and the process repeated till it is satisfactory. After which repeat the dipping process till the deposit has the desired thickness. It is well, however, to leave it thinner than the desired plate till after the set is articulated, then after waxing up carefully, so that one more dip will give the desired finish to the base plate, dip it in water so that the teeth shall be wet before immersing it in the melted wax. The wax deposited on the teeth will peel off easily. Cool the wax, and, with a sharp instrument, trim around the teeth and the edges of the base-plate, and it is ready for the flask. With a little care the surface of the base-plate may be made as smooth as glass, and the labor of finishing the rubber will be much reduced. A little practice in dipping a model will give one all the skill that is necessary to perform the work quickly and easily.

A. N. Dick.

MICROBES AND DISEASE.—It is quite evident that microbes may easily become the cause of many of our diseases. For instance, a wandering corpuscle from some suppurating tissue, getting entangled in some debilitated part of the system, begins its work of generation, and thus boils, carbuncles, swellings, and many other serious troubles result. These cells or corpuscles are not the cause, it must be remembered, till they have become demoralized by microbes or ptomaines.

It is still a doubt as to what and how these ptomaines or waste products are produced. They may be the excreta of microbes themselves, or they are the result of the splitting up of more complex substance, or coalescing of simpler bodies by the disturbance of the molecular state of the compounds caused by the growth of the micro-organism. Waste products of microbes are analogous to the waste products of the other forms of life. Generally they are active poisons. They are *always* poisonous to the form of life that produced them, that is, providing they exceed certain proportions. Strange as it may appear from the above, it will be seen that microbes actually manufacture their own germicides, as substances which they elaborate are the excreta of germs which are poisonous to them, just as the excreta of any animal is poison to it.

D. V. Beacock, in *Dominion Journal*.

CURRENT THOUGHTS.

Some of the good people of Stratford, Connecticut, decided this year to drain about forty acres of marsh land, and had the necessary ditches dug. Afterward some of the ditches were partially filled up and the marsh water stagnated therein. On examination the water was found to be a saturated solution of mosquito larvæ. The local scientists focused their powerful intellects and microscopes on a specimen of the water and figured it out that the prospective mosquito population had been 20,000,000 to the acre. As there were forty acres drained, the appalling fact is apparent that 800,000,000 promising members of the mosquito race, who might have done good and telling work on the Connecticut country boarders this year, were thus cut off before their youth had a chance to flower or even to sprout, or, to come down from metaphor, in fact to crack the shell of the embryotic state. Among other things, this little story teaches us to keep away in summer from undrained marshes in Connecticut or anywhere else.

New York Tribune.

Dr. E. T. Darby says concerning implantations, the impression seems to rest on the minds of many that they are temporary. I have seen many such that are perfect after six or more years. Some time ago, Dr. Younger implanted a number of teeth in one mouth. All succeeded except one, and in place of this I implanted another. That was more than six years ago, and they are all perfect to-day.

There are a number of theories concerning the method of attachment. It is by an anchylosis in some instances, probably, but I have seen some that appeared as movable as the ordinary tooth. I have, in a number of instances, put artificial crowns on roots and implanted them, and they have served a good purpose. Implantation is quite a legitimate practice. Even if a tooth does fail after five or six years, another can easily be inserted in its place.

HOW MUCH FOR A DIPLOMA?—"We have an inquiry," says a New York commission house, "from one of our friends in South America for a dentist's diploma, for a man who has been practicing there for some time. He wants to know the necessary conditions to obtain it. It would take three years study at most of the Colleges of Dentistry there to qualify him for a diploma. He wants one of the highest grade and class obtainable, and wishes to know whether such can be procured without it being necessary for him to

come to the United States, and, if so, what certificates are necessary. We are told there is a regular trade in these. Perhaps you can let us know particulars and prices of two or three different grades."

We replied that *that* day had passed. Are we right?

I use about one-third emery with my pumice for finishing plates, and finish with half the labor and time, and scour the palatal surface of plate with oil or glycerine to remove the last trace of plaster.

I used to have trouble in holding broken plaster in position, especially partial lowers, long enough to cement together with wax. I now take a roll of wax, apply one end to labial surface of teeth, adjust plate, and secure by pressing wax to plate all around. By this means an accurate adjustment is easily secured.

After cleaning and drying cuspidor, I wipe with an oiled rag, this leaves an oiled surface. Blood and saliva immediately descend, leaving no trace.

G. Charles Bowles.

Dr. J. S. Marshall says, regarding antiseptics: There are many surgeons who are altogether abandoning the use of antiseptics in operations. They rely on cleanliness, and claim to get quite as good results as when they used the different antiseptic washes and dressings. One in Chicago now sterilizes his instruments in boiled oil, and washes all the parts operated on with sterilized, or boiled water. The discharges from surgical wounds are simply washed away with sterilized water, and are thus kept as clean as possible, and that is all. I have seen many of his cases, and he has had as good results as the other surgeons who employ the different kinds of antiseptics.

We should be much more delicate and considerate in our work on teeth if we kept in mind that the dentine is only calcified pulp. We often call the pulp the nerve of the tooth, but, though in great minuteness and activity, the blood-vessels also ramify the pulp and both are still in the dentine, and may be irritated and inflamed, and made to transmit intense pain. Caries itself is but a species of what in the pulp would be called putrefaction. We should also have much more patience, carefulness, and sympathy for those patients who have hypersensitive teeth if we remembered that these teeth are more nearly allied to the uncalcified portion of the tooth called pulp.

What disintegrates oxyphosphate fillings? is a question worth an intelligent answer. It is generally supposed to be an acid condition of the mouth. But how can an acid so act on the oxyphosphate as to destroy it? It is the union of an acid with the zinc which gives it its strength. This cannot be neutralized by another acid. A good oxyphosphate should be neutral to both acid and alkali, but if disintegration does take place it will generally be from an alkali. Mix up a marble of Welch's Oxyphosphate and immerse it in an acid and then in an alkali and see the result.

TO PROTECT FILLINGS OF OXYPHOSPHATE.—Cut and file a piece of gold plate of the size and shape of the surface of the cavity. Now solder to its under surface the center of a narrow strip of gold and bend up the ends. As soon as the filling is placed in the tooth and while it is soft, press this cap on the surface.

A gutta-percha filling may be made quite durable in this way, though of course the cap must be pressed on while hot.

THE WORLD'S COLUMBIAN DENTAL CONGRESS.—Those who had the pleasure to meet the celebrated Dr. W. Herbst, of Bremen, Germany, when he came to this country to demonstrate some of his methods, will, no doubt, be pleased to learn that, according to the *Zahnärztliches Wochenblatt*, the learned doctor has accepted the appointment by the Executive Committee as member of the "Committee of Conference."

"A tooth soaked in sugar water," says M. Lugar, "becomes jelly-like from the sugar combining with the lime of the tooth." We have not verified this statement by experiment, but if sugar thus acts as an acid, we certainly see how its too free use must injure the teeth in the mouth.

It will not do to arrange the teeth according to your preconceived, and maybe correct, ideas. You must consult your patient. They often (think) they know more than you do about correct expression. And they have to wear them.

Western Journal.

The substance of an artificial tooth is made principally of spar and silice; the gum color, of the purple of Cassius and teroxide of gold; the bluish tint is platina; the yellowish tint, oxide of titanium.

INTERNATIONAL REVIEW.

Chips from Dental Workshops Gathered from
German, French, Russian, Spanish
and Italian Sources.

By George Randorf.

BROMETHER NARCOSES.

Though discovered in 1827, by Serullas, the anesthetic action of bromether (ether bromatus, ethylum bromatum, C_2H_5Br) was not known till 1849, when Nunnely discovered it. In 1876 experiments were conducted by Rabuteau, the results of which clearly demonstrated the fact that bromether was tolerated by the patients easier than chloroform; that it did not excite the mucous membranes; that it acted quicker, and that it was worked off through the lungs more rapidly. Since then it has been tried more extensively by others, and while the new anesthetic did not answer the expectation of practitioners in long continued operations, in those of short duration it has been proved to possess decided advantages over chloroform.

"I have taken pains," says Dr. Hodds, in an extensive article on the subject in *Deutsche Monatschrift für Zahnheilkunde*, "to collect the statistics from a hundred dentists who have practiced the narcose with bromether during the period of about four years, and through the courtesy of the colleagues I am in possession of the results in 32,000 cases. Out of this great total only two deaths are reported, and these, too, under somewhat doubtful circumstances."

The mask used in administering this anesthetic consists of a piece of linen the size of a child's napkin, folded into a cornet shape and closely applied to the mouth and nose. On this the bromether is allowed to come down in drops, so that about three or four grs. a minute are used. This mask has the advantage that you can have several ready for use, and that linen allows the bromether to evaporate quicker, while the flannel retains it even after twenty-four hours.

The dose for one or two extractions is about 6 to 8 grs. The total application of 20 grs. in drops in three narcoses will enable one to extract eighteen roots.

THE NARCOSE.

As to the time when the narcose can be called complete, and operation may safely begin, Dr. Heinrich Hamecher writes in the *Oester-ung. Vierteljahrs. für Zahnheilkunde*, as follows :

Only very recently I have succeeded in arranging my bromether narcoses so that I can really know beforehand when to commence painless operations. I pour about 20 grs. of bromether on a napkin which is folded several times. This I hold before the mouth and nose so that the borders of the napkin touch closely the face. I instruct the patient to in- and exhale deeply through the mouth at a somewhat accelerated tempo. From the beginning I keep my hand on the thorax and help along by a strong pressure each exhalation. Soon it is noticeable that the patient slowly ceases to breathe, when the pressure with the hand must be stronger. After about ten pressures on the thorax a condition is created similar to the apnoea. This moment is sufficient even for larger operations to be carried out. When the patients awake from the narcose, they all assure me that the pressure with the hand has made the respiration easier, and made it, on the whole, much more pleasant.

AFTER EFFECTS.

While excitation is similar to that produced by chloroform, and outside of about five per cent., is confined to intemperate and nervous patients, vomiting after the narcose occurs only in about one and one-fourth per cent. of cases ; it is oftener after larger doses and concentrated administration. Dr. Hodds reports only one case out of 250 narcoses. Some redness of the face is noticeable after the narcose, which is probably due to a slight hyperemia of the brain. This may linger sometimes for hours or even a day, together with a sense of being unwell, accompanied by headache and nausea, which again should be ascribed to anemia of the brain. For these reasons it is advisable to instruct those narcotised, at the approach of such after effects, to take some tonic like coffee, wine or cognac, or to assume a horizontal position.

Some of the bad after effects are to be accounted for by the fact that either the bromether has not been properly prepared or its administration made similar to that of chloroform, which is especially to be avoided.

CONCLUSION.

The following resumé of the experiments by Dr. Schneider in the use of bromether in dental practice has been since corroborated by a large number of practitioners on both sides of the Atlantic :

1. The rapid appearance of the narcose.
2. Absence of the excitement stage.
3. The good health of the patient after the narcose.

Dr. Witzel indeed differs from this almost universal conclusion, but his experiments have been shown to be defective in some particulars, especially by Dr. Hamecher, who has investigated the matter for himself and given the contrary results in over 3,000 narcoses in favor of bromether, in an extensive essay published in the *Oesterreichisch-ungarische Vierteljahrsschrift für Zahnheilkunde*, and from which we take the following extracts.

After removing all obstacles to free breathing in the way of corsets, tight clothing, etc., and a satisfactory examination of the condition of the heart, nothing is to be feared from the scientific administration of bromether, no matter whether the patient be in the family way, or menses occurred. However, I demand that the use of spirituous liquors be avoided before the operation, as the bromether narcose seems to be delayed by what would assist chloroform narcose.

As to the excitement of the sensorium, those awakening from a bromether narcose positively declare they had no dream, and, if any, the dream had nothing to do with the operation. Sexual excitement occurs here as in other anesthetics. Mostly women seemed to betray the dream to the knowing observer by the motions of the body. In men and grown boys, however, no proof of sexual excitement could be gathered from the motions during the narcose. According to their own freely made statements they had pleasant dreams. In cases of less educated female patients it is therefore advisable to have a witness—possibly a female—who shall remain all through the narcose, and not be dismissed before the patient has left the operation room.

Besides corroborating the above resumé of Dr. Schneider, Dr. Hamecher adds the following advantages of bromether:

4. The almost absolute absence of danger on careful administration.

5. *The fact that in experiments on animals breathing ceased much earlier than the heart.*

NITRATE OF SILVER FOR DEVITALIZING PULPS.—“After years of experiments,” says Dr. Linderman, of Russia, “I am satisfied that the use of hellstone (nitrate of silver) affords the best results, and the impregnation of the tooth with it seems to preserve the tooth, though the latter becomes very soon dark in color, like one filled with copper amalgam.”

The absence of inflammation in the root canal after using the hellstone, the author explains by the supposition that the molecules of nitrate of silver penetrating the pulp particles are converted by the chlornitrate contained in the blood into insoluble chloride of silver.

OCCLUSION OF THE ESOPHAGUS BY A SET OF TEETH.

A man of thirty-six complained of dysphagia and a change of voice. Three years ago he swallowed a set of teeth, which he felt descending and stopping in the middle of the œsophagus. The physician whom he had consulted being unable to either lift or push down the foreign body, sent the patient to the St. Bartholomew hospital, where they attempted extraction under chloroform. These attempts proving fruitless, it was sought to push the obstacle into the stomach, and the patient was instructed to watch his feces in case the foreign body was expelled through the intestines. After the operation the patient lost his voice for two months, and since that time the voice remained hoarse. The dysphagia which set in soon after the accident became still more pronounced. The patient said that the food seemed to stop half-way, provoking sometimes coughing spells, followed by the expectoration of a clear matter having a very disagreeable odor. Through the laryngoscope the left vocal chord was seen to be immobile; otherwise the larynx seemed sound. On introducing a probe resistance was met at the distance of about twenty centimeters from the dental arches, but it penetrated thirty centimeters deep. The obstacle seemed to have its siege under the level of the cricoid cartilage, to the left. Chloroform was administered so as to obtain a relaxation of the muscles without producing a complete narcose.

The doctor could then seize the foreign body and extract it through the mouth. But only a part of it was regained, the other part resting in the œsophagus, till it was also extracted. The hemorrhage was insignificant; the temperature which was 39° at the beginning of the operation fell at once to the normal point, and the patient left the hospital eight days later completely cured.

Dr. Lennox Browne who performed the operation also showed a set of teeth which he took from the larynx of a woman, where it remained for twenty-two months. This woman swallowed it during an epileptic attack, and she did not know she had swallowed them. Her doctor diagnosed it as either laryngeal phthisis or cancer.

Revue Odontologique.

AGAINST VOMITING AFTER CHLOROFORM NARCOSE.—Dr. Passet advises as the only and rational remedy, that the chloroform shall not be swallowed. This is very easy to achieve with the great number of patients by requesting them to spit out the richly accumulated saliva.

PRODUCTION OF PLATINA IN RUSSIA.

The platina veins in the Ural mountains are unique in that this metal is found there in grains. Platina is also found in Brazil and in the Cordilleras, but in none of these places is it obtained in grains. In Goroblagodatsky there are sixty-six mineralogical societies for the exploitation of platina, which search the coasts of Touri river and its tributaries.

The demand for platina, which increases every day, dates only from twelve to thirteen years ago. During the past decade the output of the metal has diminished till about 3,194 kilo. annually, more than half being obtained from the northern veins of the Ural mountains, which belong to the Empire. The total consumption of the world reaches 3,270 kilo., but the increase of the manifold applications of this metal in industries must increase that figure considerably.

When the demand for platina is insignificant and the price very low, the miners who find it when searching for gold use it for small shot on hen-birds. All the platina which is obtained from the Ural mountains, after the payment of a tax of three per cent. in material, is sent in a rough state to St. Petersburg, to be shipped to foreign markets.

La Odontologia.

Paul Ritter, of Berlin, says *Zahnärztliches Wochenblatt*, demands, with right, that since the oral cavity is the favorite seat of the syphilitic poison, a strict medical and dental control in all suspicious affections occurs there, and urges not to neglect the possibility of infection or transmission through the syphilitic products mixed with the saliva, or otherwise present in the mouth and on the teeth of the patient.

He also emphasizes the necessity of the dentist's care before, during and after mercury treatment, and demands the filling or removal of carious teeth, calculus, the filing away of tooth edges, and care in treating any occurring affections of the mouth membrane, besides prohibition of smoking, and the strictest care of the teeth. In the course of his work the author describes the primary affections of the mouth and the secondary occurrences coming under the notice of the dentist, with special attention of the differential diagnosis, and gives his own advices, based on rich experiences, for the therapeutics of the syphilitic mouth affections.

In conclusion, the author regrets that the mouth and teeth of the working classes are so much neglected, for instance, the mercury and lead factory workers especially suffer dire consequence from their occupations, and he advises dental examination before employing them. He also urges the appointment of dentists in the departments for skin diseases and syphilis in the hospitals, dental examinations of the poor by appointed "poor doctors," and strict instructions for the practicing dentists in reference to the removal of calculus from the teeth, and also all suppurating matter from the mouth.

WHAT TO DO IN CHLOROFORM SYNCOPE. — In his work on this subject, Dr. Bobroff says in the same journal:

1. Our whole course in chloroform syncope must be revised.
 2. We must not be unsystematical in the selection of means.
 3. Injections of ether and alcohol under the skin, as well as the inspiration of amyl-nitrate, are hurtful, and must be discarded.
 4. The injection of a salt solution is a good and harmless remedy. Indeed, why bring all sorts of poisons into the system when the desired aim, the lifting of blood pressure, and the heart action, can be achieved by the use of an innocent liquid.
 5. If the salt injection has no effect, and respiration ceases with the heart action, it is necessary to resort immediately to artificial respiration.
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The Central Committee of the Eleventh International Medical Congress, which will take place in Rome from September 24th to October 1st, 1893, has definitively decided to reserve a section for our special science. It will be known under the name of "Section XII, Odontiatry." The following are the members of the Italian Committee on Order: Professors L. Caneras, P. Cianchi, P. M. Giurda, and C. Platschik; Doctors C. v. Campani, A. v. Coulians, A. v. Camusso, J. v. Garelli, E. Maccabruni, and L. Martini. All inquiries regarding the Congress must be addressed to the General Secretary of the Congress, Prof. Maragliano, Clinica Medica, Ospedale di Pammatone, Genoa, Italy.

The first series of the French translation of Black's "Descriptive Anatomy of the Teeth," second edition, commenced in September issue of the Paris dental journal, *Le Progrès Dentaire*. The text will be accompanied by illustrations from plates furnished by The Wilmington Dental M'g Company, publishers of the book.

OUR MONTHLY GOSSIP.

By W. E. Blakeney, D.D.S.

SLEEP is nature's benediction.

SPEND less energy each day than you make.

WHEN you want to find a coward hunt up the man who knows he is wrong.

EUROPHEN, it is claimed, will relieve excoriations under plates and the pain around roots of teeth.

DR. C. N. PEIRCE uses an antiseptic dressing made of aristol and oil of cinnamon with encouraging results.

IT is said that a greater number of deaths have been occasioned by the use of pental than by any other anesthetic.

THERE is a tooth of Buddha preserved and worshipped in an Indian temple, which probably all the gold in the world could not buy.

IF you want to know how to perform a difficult operation in oral surgery, ask some one who has had no practical experience in such an operation.

M. CHAMBERLAND, one of Pasteur's colleagues, says that no living disease germ can resist for more than a few hours the antiseptic power of essence of cinnamon.

IT is said that europen, when applied to gingival sensitiveness, caused by the setting of crowns or bridges, the soreness and irritation subsides promptly.

ARISTOL should be kept in well stoppered colored bottles, and bought in small quantities to insure freshness, as it deteriorates on exposure to light and air.

FIVE parts of tartaric acid makes bichloride of mercury reliable as a destroyer of micro-organisms. Equal parts of peroxide of hydrogen and $\frac{1}{1000}$ sol. bichloride of mercury is also effective.

To increase the solubility of salicylic acid in water the addition of one part of acid to one hundred parts of glycerine and one hundred and fifty parts of water gives the most satisfactory results.

"THE great inventor," says Isaac Taylor, "is one who has walked forth on the industrial world not from universities, but from hovels—not as clad in silks and decked in honors, but as clad in fustian and grimed with soot and oil."

"GREEN stain, so often seen on the teeth of children, is from

the excessive use of milk." This is the belief of a writer in the *Cosmos*. It is too silly for a place in a scientific journal.

AN excellent root canal dressing may be made by rubbing up a grain of aristol in ten or twelve drops of one of the essential oils, to which may be added two or three drops of ether or chloroform to facilitate the process.

"MAKE a saturated solution of zinc sulphate in water," says the *Dental Review*, "and use it with the powder in oxychloride packages and see how hard it will become." Its use in pulpless tooth crowns, and as a foundation for filling, is highly satisfactory.

THE pain that occasionally occurs so acutely after the extraction of a tooth appears to be a centralizing of nerve force in the cavity, possibly from the extension of the nerve sheath before giving away. "This pain," says Dr. Wilson, "is instantly cured by a strong sniff of ammonia."

PROF. DAcOSTA says that gelsemium is especially useful for neuralgia of dental origin. He commences treatment by "giving five drops of the tincture three times a day, and increases to ten drops three times a day, till the patient sees double," and then stops the administration of the drug.

DR. W. H. MORGAN scouts the idea that cavities could not be successfully filled unless the whole cavity is seen by the operator. He uses cohesive gold, and claims to have made perfect fillings where only a portion of the cavity could be seen—testing the solidity of the filling by the touch.

THE Illinois Dental Society advises the establishment of a weekly dental journal, as the monthlies are too slow in getting the "news" to their readers. If the society was called on to foot the bills of such a publication it would be slow in practically responding to the call.

DR. W. MITCHELL, London, England, uses sandrac dressing as a protection for arsenical applications, with the best results. "I have used it," he says, "in my practice many years, and have never had occasion to regret it." A little skill and care in the use of it is all that is required.

A LITTLE girl who had stubbornly refused to allow the dentist to treat an aching tooth for her, after being reprimanded by her mother, was told to go into her chamber and ask God to forgive her. She did so reluctantly, but came out soon with a triumphant air. "Well, Mary, did you ask the Lord to pardon you?" "Yes," she replied, "and God said, 'Don't mention it, Miss Perkins.'"

DR. J. A. SWASEY uses a matrix of brass. He does not want any obscure walls, but must see every portion of the cavity. He contends that "a man who does not wedge a tooth, and fit a matrix so that he can see all portions of the cavity is not an operator." I think the doctor in these assumptions is a little too radical.

J. D. HARFOREL, M.D., of Linwood, Kansas, having had his attention called to a serious case of cocaine poisoning, said that "he had been using cocaine almost *recklessly* for the last four or five years, and this was the first unpleasant symptom I ever met in its use." The doctor who would use this dangerous drug recklessly ought to receive some unpleasant reproof from his professional brethren, if not something more humiliating from official sources.

DR. C. N. PEIRCE uses tri-chlor-acetic acid on epulis tumors, spongy gums, growths over third molars, etc., applied by means of a wedgewood stick. For calcic pericementitis use on a spatula. For cleansing roots use full strength if necessary. It has happy results on the tissues, being escharotic and astringent. It arrests pus accumulation in pyorrhea alveolaris. For putrescent pulps force it into the root canals. It destroys the tissues and purifies in a few moments more perfectly than carbolic acid.

A BOY ten years old bled to death in the office of Dr. Samuel Randal, a Grand street dentist, on the 29th of November last, after having a tooth extracted. The boy had been subject to hemorrhage of the gums. When the tooth was extracted the blood gushed out in a stream, and the dentist, becoming alarmed, sent for a physician. This gentleman, however, could not stop the flow of blood and death soon ensued. The coroner exculpated the dentist.

"IN filling deciduous teeth," says Dr. S. E. Gilbert, in the *Cosmos*, "it is often almost impossible to exclude moisture from the cavity sufficiently to permit filling with zinc phosphate, unless the rubber-dam is used. The difficulty may be overcome in the following manner: Place some of the powder on a glass slab, also a little of the fluid, and beside these a little of chloro-stopping. Make a rather thin mix of the zinc phosphate, then add to this the chloro-stopping, mixing in more of the powder till a thin putty-like consistency is obtained; now napkin the mouth, and dry, immediately packing to place, and finishing with burnishers."

EDITORIAL.

THE NEW YEAR.

Oh, for a new life! What are these beautiful new days and months and years born for, if not to give it? We might go on in our monotonous, humdrum way of thinking, and doing, and living till we are decayed and forgotten, if nature did not send us to bed to reflect and renew our energies. But if in spite of this wonderful lesson, night after night, we accept our renewed life to exhaust it in trifles, it is well to have the changing seasons remind us of our folly, and then for the rolling year to wake us up to our glorious privileges.

I like to get hungry, and tired, and sleepy, and sometimes to have little misfortunes take me into the quiet valley. None but the hungry relish food; none but the tired appreciate rest; none but the laboring man enjoys sleep; and as for our light afflictions they are often blessings in disguise. You may fatten the turkey by cramming, but it gobbles its longings for a run among the gravel. We may smooth the downy pillow, and bring to the couch of the idle the best viands, but the natural man wants work, and the rough and tumble of life. Pampering enervates, indulgences corrupt, and too much of any good thing brings discontent.

Then let the night come, for it brings the morning; welcome the dreary winter, for it brings the spring; Old Year, good-by, for thus you usher in the Happy New Year.

I am glad I am not an old man, for these bright renewals to become stale; I am glad I am not a crusty old cynic for them to pass unseen; I am glad I am not a sordid old miser for them to be dreaded because their pleasure cries for ducats. As my afternoon is waxing I enjoy it, for it portends a beautiful eve, and that eve a glorious morn. Let me sit with the children now and then, and enjoy their play; let the joys of living smooth down a few wrinkles; let me feel at times the thrill of the philanthropist as he freely gives what he has freely received.

Now stop your snarling, old man; I am not talking to you. Hie you to the corner, if you have lost the joys of life. And

you, misanthropic, captious, surly, currish cynic, screw up your hard, bony face at these childish things, if you will; I am going to enjoy them. And you, miserable, old, niggardly miser, go into the shade of secrecy and selfishness and count your gold. Take your fill of such food, but give me the elixir of life in the elysium of the happy.

Let us bound into the Happy New Year full of faith in our powers, hope in abundant success, and warm with such a love of our work as to transform the most irksome duties into delightful privileges.

FIND THE CAUSE.

Some physicians prescribe only for symptoms. "If I remove the symptoms I remove the cause," said one of these. Symptoms, it is true, often suggest, and lead to, the cause; but so often they do not, that they may lead us astray. For instance, pain, and even swelling, of a part may deceive us. What is the cause? should be our constant anxiety. An eruption of the skin may be removed without removing the cause. A swelling of the hand or the foot may be reduced without curing the rheumatism, which may be the cause. There may be intense pain in a region which must be overcome by treating a part quite remote.

This treating only symptoms is sometimes a fault of dentists, as well as physicians. A blister or a lotion on an inflamed and swollen muscle may not be more than temporarily beneficial. We may exhaust our resources on a sore tooth in vain, if we do not know what makes it sore.

A young lady came into my office with a loose, inflamed, elongated cuspid. The gums were terribly swollen, and matter was oozing from around the root.

"A badly abscessed tooth," we said almost instinctively; and we blamed ourself severely, for only recently we had professed to fill every cavity in her teeth, and had pronounced this tooth sound. And even now, by the most careful examination, we could find no cavity in it.

"Have you had trouble with this tooth before?" we ventured to ask.

"None till since I was here," she replied.

"Then it cannot be an abscess," we said to ourself; "it must be ulceration, or inflammation from some violence."

"Has it received any severe shock from a blow, or in any other way?"

"No."

For three days we puzzled over it, the poor girl suffering terribly. At length we remembered this was the tooth we had used as an anchor or a post in regulating a lateral incisor, and that perhaps I had used it too violently. But this hypothesis we had to abandon, for it had showed no looseness or soreness while we used it, nor for three or four days afterward. Ah, at last we had the secret cause, and it threw all the blame on us. We found a rubber band quite up under the gum; in fact, it had worked up between the bony socket and the root.

From two or three sources we hear that, with some boards of dental examiners, favors go by politics. We cannot believe it possible. For the sake of their own honor, and the honor of our profession, let us keep clear of this. It would mean corruption.

Yet, if we were on a State or college examining board, we would bring our politics to bear on every applicant to our profession; but we should be offended if the others on the board did so unless their politics agreed with mine, for mine is the only politics that ought to weigh. Do you say this shows I am an egotistic crank? No; it shows only that there is politics which ought to enter into the standard of dental examinations, and politics that ought not to. It should not make a penny's difference whether the candidate was a Republican or a Democrat; but it would make a great difference whether he agreed with our politics or not. Our politics is so important we carry it wherever we go, and into everything we do. We even mix it up with our religion, so that this also would weigh, if we were on one of these boards. But we would

not tolerate our associates doing so, unless their religion was the same as our own. What do we mean by all this? We mean we would admit none but gentlemen into our profession. If a young man came who was a slave to tobacco and intoxicants, our politics would be in his way; if he had given himself up to vulgarity and licentiousness, our religion would be in his way. These are the kinds of politics and of religion we would have govern on the examining boards.

OUT DOOR WORK.

We know a dentist who keeps in good cultivation a garden of an acre. For many years he was too lazy to do it; so he hid behind all manner of excuses as reasons why he should not. Now he laughs at them all. Then he was extremely nervous, and the handling of a hoe for five minutes made his hands and fingers tremble so he was unfitted for professional work; now, he says, persistent garden work steadies his fingers, and overcomes nervousness. Then a little over-doing made him tremble all over, and his back ache so he could hardly stand at his chair; now he can run and jump and carry loads, and finds such work just prepares him for the office. Then he was afraid of soiling his hands; now he finds a dozen ways of cleaning them, and when they are clean, there is a velvety softness they never knew before. Then he was irritable and peevish; now he is cheerful and happy. Then he was dyspeptic and a nuisance; now he is a benediction to his family and patrons. Then he was often offending his best patients; now he attracts them. Then life was a burden; now it is an enjoyment. Then his business dragged along just as he did himself, and he often wished he could find some other business; now it is his delight, and he can do it better and in less time.

That is what the garden has done. There are many dentists who might well go and do likewise. Though the garden might be a perfect failure in raising fruits and vegetables, if it can raise a healthy, happy dentist, it is profitable.

OUR UNCONSCIOUS INFLUENCE.

Our unconscious influence for good or for bad is often more than we suspect. It is sometimes more than our words, more than our acts. It comes of what we are. Men may scoff at our goodness, or laugh at our badness, but there is a power in our very presence that carries a weight that outweighs either. If we are good, the very men who would sacrifice us for what we say or do because it reproves them, will whisper our praise; if we are bad, the very men who hurrah at our evil audacity will scorn us in their heart. We have seen a whole mob awed by the presence of one man revered as a thoroughly good man, and we have seen an audience laugh at a Christian turning buffoon, and yet whispering, "What an idiot he is making of himself."

We were once severely reprimanded to our profit by two young ladies from a distance, for whom we had done some dental work. We had neither said nor done anything wrong, but our general moral atmosphere, for the three or four days they had been with us, had been light, trifling and foolish. The next Sunday they were present at our Methodist love-feast, where we were somewhat emphatic in our experience. The next day one of the young ladies said: "Why, doctor, I was surprised yesterday at your Christian experience. From what I had seen of you here, I would not have suspected you were a Christian."

We once attended a banquet of dental dealers. The toastmaster was a Sunday-school superintendent, and we had much respect for him. As he introduced the after ceremonies, and was in the height of his oratory, he wished to emphasize a remark by an anecdote. Looking about he whispered, "Are any ladies within hearing?" (He didn't think it was necessary to ask if there were any gentlemen there.) Being assured there were no ladies to hear, he told a vulgar anecdote. Nearly all laughed, and some clapped, but a few withdrew, and none who cheered that we heard speak of him afterward retained respect for him. The outward profession of that man was good, but this proof of what he really was outweighed profession and popular standing.

NOTES.

Make a special study of all difficult cases.

* * *

Camporized ether is a good obtunder to sensitive teeth.

* * *

If you would have your practice stand by you, you must stand by your practice.

* * *

Some men are great talkers but poor workmen ; others are poor talkers but good workmen.

* * *

A too familiar, maudling, patronizing air is repellent. Soft, silly, foolish expressions and demeanor are disgusting.

* * *

In emergencies keep cool and depend on good common sense. Frustration is often the result of an attempt to display some special sense in some special manner, instead of good common sense.

* * *

There should be nothing in confusion in the dentist's surroundings at his chair. "A place for everything, and everything in its place," is a fine motto for a dentist.

* * *

Thoroughness does not necessitate roughness. Delicate manipulation may be quite as complete, and is generally more perfect. It is precision that makes completeness.

* * *

The mold on stale bread and other vegetables kept in damp places is a dense forest. If the trunks of these trees are too diminutive for our unassisted vision, what must be the size of the branches, buds, leaves, flowers and fruit?

* * *

Drs. Sylvester, Jenkins and Young, said to have the most lucrative dental practice in Berlin, Dresden and Leipzig respectively, are all natives of Maine. The last two mentioned cut all their teeth in Bangor.

* * *

H. P. Coffin, Secretary of the Columbia Paper Mills, of Buena Vista, committed suicide at Lexington, Virginia, recently, by shooting himself through the head. Excessive use of cigarettes led to the trouble.

Gutta-percha may be made to stick to the walls of the cavity being filled by it, by carrying into the cavity a drop of gutta-percha varnish just before inserting the heated gutta-percha. The varnish will also be found almost entirely to compensate for the little shrinkage of the filling. This is quite a consideration.

* * *

Dull or improper instruments are cause for complaint. The idea of some that it will be taken as evidence of skill to have but few instruments, and the boast that "I can use anything," is nonsense; the more skillful the dentist, the keener, brighter and more delicate, varied and appropriate will be his instruments.

* * *

Chloride of ethyl, says Dr. George E. Hunt, has proved itself a local anesthetic of considerable value. It comes in ten-gram flasks, and it is so volatile that it is difficult to save any when once the flask is opened. For lancing abscesses, extracting teeth, etc., when a general anesthesia is not desirable, it is of great value.

* * *

Men who succeed in any calling, combine several very important elements of character. Faith and talent and ambition and energy, will win wonders of success. Perhaps the great difference among men of all callings, is energy of character, or want of it. It takes nerve, vim, perseverance, patient continuance in well doing, to win a great prize. And the young man who goes into a profession without this pluck and force, will fail.

* * *

Have you infirmities?—suppress them; have you troubles?—hide them; have you losses?—bury them. But if you have the crimson glow of health, paint it on your cheeks; if you are thrilled with the ecstasy of joy, print it on your smiles; and if you are blessed with the overflowing measure of prosperity, shower its benefits, as golden sunbeams, on the needy about you. So shall dark shadows be driven from your sky, soft zephyrs shall sing siren songs, and bright angels shall be attracted to your pathway.

* * *

The chemical action of oxyphosphate in hardening softened dentine, specially adapts it for soft teeth. When the dentine has softened quite to the pulp, so that its laminations can be readily raised with the instrument in layers, by all means let it remain undisturbed, rub on a little tannin made into a thin paste with oil of cloves, and fill with phosphate of zinc. The softened dentine soon becomes "tanned," and a permanent covering made for the pulp.

A rough, careless manner in our movements, specially in our treatment of the mouth and teeth, causes needless aversion to dental work. Some dentists seem to think it smart—an evidence of professional experience and skill—to act in a blunt, nonchalant way. They seize the mouth with rudeness, and draw back the cheek so roughly as not only to anger their patients, but sometimes to actually do harm. So in their unmannerly attacks on the teeth, they affect indifference to pain, laugh at complaints, and work like butchers, assuming that severity will be taken for thoroughness.

* * *

A good liquid glue, such as is mostly found on the market, is made by dissolving one pound of best pulverized glue in water and adding one ounce nitric acid. Heat for a short time.

Another is, 100 parts of ordinary gelatine are dissolved in 400 parts of water containing 6 to 7 parts of oxalic acid. The solution is kept for five or six hours on the water-bath, in a porcelain infusion pot, after which it is neutralized with carbonate of calcium, the insoluble precipitate filtered off, and the clear filtrate evaporated at a moderate temperature, till about 200 parts are obtained. The product is a durable, slightly-tinted, but clear liquid glue.

* * *

Some dentists are too trifling and foolish with their patients during work. We cannot be very talkative on any subject without giving offense. There is scarcely a patient that may not be instructed without being conscious that instruction is intended. It is a delicate matter; but if there is the right spirit within us, we shall find a way and a time to say many things that will prove profitable for reflection; and such a time is often about the only time most patients will learn much of our art.

* * *

George E. Hunt, of Indianapolis, says nitrate of silver, for the arrest of decay, although not a new feature in dental therapeutics, has lately received considerable attention, through the experiments and results achieved by Dr. E. A. Stebbins, of Shelbourne Falls, Mass. In the deciduous teeth, and in those of adults where imperfection of the enamel has resulted in superficial decay, and especially in the excessively sensitive cervical cavities so frequently met, it may be employed with great advantage. A serious objection to its use is the blackening that is produced, but in deciduous teeth, and in all teeth out of sight, the stain is of comparatively little moment.

OUR PATIENTS.

IF LADIES COULD TALK.

If ladies could talk would they not object to those dark, dirty stairs leading to your office? Even the light which might come through the small window is hindered by the cobwebs and dust on it. My! when was that glass cleaned? And when was the broom last used on the stairs? If recently, the work must have been shiftlessly done.

If ladies could talk would they not tell you of the money you could make by having a nice office? That furniture—well, of course, if it is the best you can afford, it should not be changed for better, but it might be kept well dusted and varnished. Are you quite sure that carpet could not be bettered without sinking you hopelessly in debt? A nice, bright, clean carpet and a few good pictures, with a neat set of furniture, improves an office wonderfully. Patients would be sure to tell of it. Though they may be afraid even to hint to you that they notice the change, they will let their neighbors know it. And it does tell on those neighbors—then on your practice—then on your pocket.

If ladies could talk would they not ask what that horrible smell is, so often encountered in a dental office? There is no need of it. Keep the spittoon clean, the tincture bottles well stopped, and the room well ventilated, then the atmosphere will be as pure as that of a parlor. And this, too, will tell. Ladies will whisper on the sly, though they are too diffident to talk. They are repelled by offensive odors, whether on you or in your office, and it is for your interest to be rid of them.

If ladies could talk they would soon tell you how much better you look with that nice, clean office gown, than with the greasy, threadbare, coarse coat you wore before you read these hints. Ah! and it is well you looked in the mirror after putting it on. That is the reason your hair has been cut and combed, and perfumed, and—well! if you haven't actually new office clothes throughout! That gown did it. All right; your patients will pay for them all—even to your neat-looking slippers. I know from experience. A lady dared to whisper all this to me once, and I went and did it, and Mr. Public Opinion soon recompensed me abundantly. It made me feel better, too, and increased my efforts to do good work.

If ladies could talk—you don't observe how askant they sometimes look to see if your instruments are clean, if your napkins are freshly laundried, and if everything you do and say is gentlemanly and proper? Ah! if these ladies can't talk, they can keep up a terrible thinking, and it pays to have them think well of you.

T. B. Welch.

BACTERIA AND THEIR DOINGS.

When we carefully examine bacteria and their doings, from a pathological standpoint, we reach the very climax of wonder, war, pestilence and famine. Nature's most dire cataclysm sinks into insignificance compared with the destructive work of these pathogenic and infinitesimal organisms. It is fortunate for the human race that only a small proportion of bacteria, comparatively speaking, are pathogenic; the great majority are benign, their great work being for good in the world's economy. In acting the part of scavengers, they simply return the elements of organization back to their original source with renewed activities for newer and higher combinations.

Every man lives by changes wrought in the chemical constituents of his environment. Each of us is daily producing changes in quantities of chemical compounds known as food material, and constantly giving it back to the material world in chemical forms completely changed. The microbe is doing no more or no less.

The pathogenic germ is man's enemy, the benign germ is his friend. Bacteria are necessary and useful, for without them our farmers and gardeners would have little better than a desert or barren waste to till. Even our digestion is dependent on the family of benign germs, and millions occupy every portion of our bodies, no doubt for a beneficent purpose, though we may not realize it.

Paradoxical as this may appear, it is nevertheless true that many of these germs are physiological. Pasteur isolated no less than seventeen different micro-organisms in the mouth; some of these dissolved albumen and caseine, and others converted starch into sugar. It, therefore, follows that the fermentative change they produce in food is a most important feature in digestion.

Even the very pus that these micro organisms have been so persistent in elaborating has a beneficial purpose as a remedial process, such as granulation, etc., and frequently takes the place of

far more morbid processes. It also affords a mechanical means of removing foreign bodies, *e. g.*, thorns, splinters, bits of broken glass, etc., from soft parts into which they may have been driven, and likewise in the formation of abscesses, may sometimes serve to eliminate morbid matter from the system.

All nature moves in a continuous change of cycles. Grass and herbs spring from the earth, air and water; herbivorous animals live and thrive on these, thus changing the constituents into other forms of food. These again are eaten by man and animals, and are again changed into other forms to be again transformed into other material, making food for microbes, and finally returned to the earth from which they all originated, but refined and improved. Thus the whole animal world may be said to be preying on each other; even one set of microbes are destroyed and eaten by others, and these again by others, so that Swift's couplet is quite applicable:

"The very fleas that do us tease,
Have lesser fleas to bite them,
And these again have lesser fleas
And so *ad infinitum*."

D. V. Beacock, in Dominion Journal.

Joseph Brown had been gone three years. Miss Jones was surprised to see him on the street one day.

"Why, Joe," said she, "where have you been all this time?"

"Why, Nellie, I am glad to meet you. I have been attending a training school where they teach how scientifically to pull stumps, and snags, and roots, and things of that sort. I have also had something to do with in sis ors, cus pids, mo lars, bi cus pids and dens sapien sis, and organ grinders."

"Why, Joe, what are you talking about?"

"Come to 75 Main street, where I receive into my drawing-rooms, daily, many of the *elite* of the city, and see for yourself."

"Your drawing-rooms? Are you keeping house?"

"Oh yes, and I have indicated to you my business. It has made me quite popular. I have daily receptions, and, without being egotistic, allow me to say, at our *soirées* I am the most prominent figure. All wait on me and pay me well for my performances. It is because I draw so well that I call my place of business drawing-rooms. Some cry right out with the pleasure I give them, and they are never happier than when I am very near, even bending over them. Some are so charmed they shut their eyes and open their mouth to see what I shall give them, and it is generally gold,

beautiful and useful ornaments. What is remarkable, these people, the most aristocratic, wait on me while I prepare for them these adornments, and then keep them in a conspicuous place. It is not uncommon for one to fall into a restful sleep while I am fitting these ornaments on to their person. In fact, sometimes while I am doing the most painful work they will fall into such a sound sleep their very teeth fall out, and they dream of being in elysian fields, fanned by heavenly breezes and drinking the nectar of the gods."

"You don't say so! I certainly must come and see you."

THE BATTLES BELOW THE OCEAN WAVE.

The other day a lecture was delivered at the Royal Normal College for the Blind before the Upper Norwood Literary and Scientific Society, by Dr. Benham, of Oxford, on "War and its Effects as Seen in Marine Organisms." At its close Dr. Conan Doyle, who is the President, in proposing a vote of thanks to the lecturer, remarked that Dr. Benham had spoken of the struggle which is continuously going on between animals—as, for instance, between shark and shark and mackerel and mackerel, and so it was in our own daily lives.

Just as in animal life, the weakest went to the bottom, and nothing more was heard of them. It was only now and again that they had some idea of how strange a power life was. He remembered reading that of 1,000 students that matriculated on one occasion, 890 were unaccounted for. Life with us was just as strange a power as in the lower animals. Although we do not learn to develop spicules, as in the case of some of the fish which had been illustrated by the lecturer, we do try to improve and better ourselves. Curious as it might seem to some, just as with the lower animals, we are working to some glorious goal. As we develop, it was possible (he humorously remarked) men would be as far above us as we are above the jellyfish—but not in our time. [Laughter.]

Pall Mall Gazette.

WHY DID THEY LAUGH.—Bob—"Have you sold your humorous article to any newspaper yet?"

Sam—"I've shown it to several editors, but none of them have bought it."

"Perhaps they don't think it funny enough."

"Oh, yes they do, for they all laugh."

Texas Siftings.